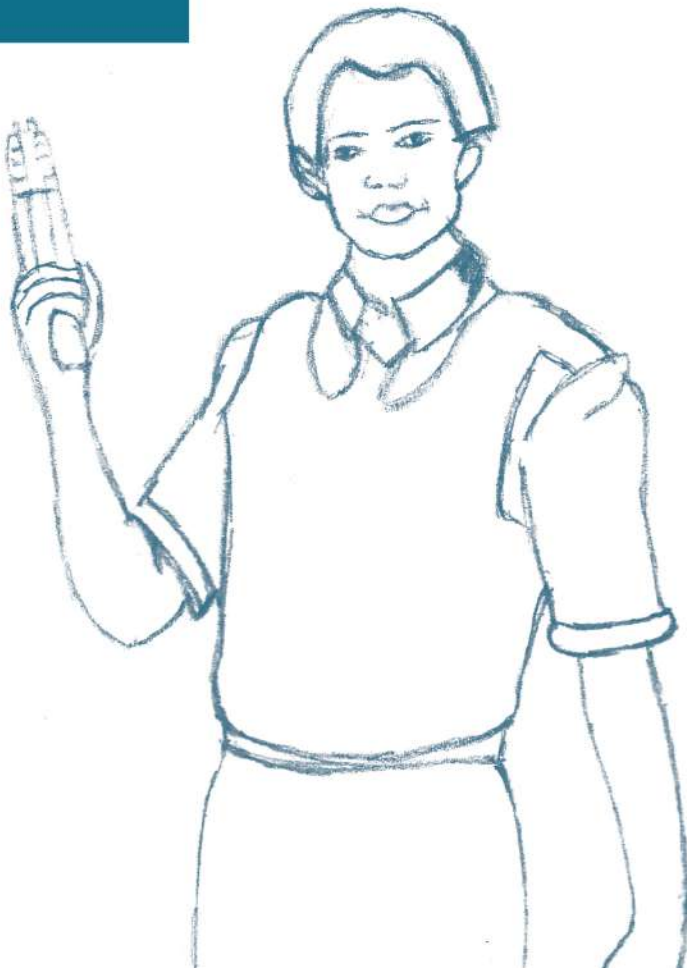


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Benefit-Cost Analysis

# Setting up an armed force



Design by Erika Propper - identify@gmail.com





# SETTING UP AN ARMED FORCE

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## Haiti Priorise

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## 0.1 Abstract

The 1987 Constitution and its amended version create the Armed Forces of Haiti (FAD'H) and the National Police of Haiti (PNH), the institutions of the security forces. However, only the National Police of Haiti exists at the present time and, by the same token, fulfills tasks that should not be part of its responsibilities. Since the Decree of October 9, 2015 on the organization and functioning of the Ministry of Defense, the creation of the military engineering corps, which is an embryo of the new armed force, has been decided. The present study examines the advisability of the effective operationalization of the new armed forces by identifying the costs and benefits arising therefrom.

The proposed intervention is the establishment of an armed force, which will reach 6,500 military personnel in 2050 with missions of territorial protection, protection of protected areas and responding to natural disasters. The costs associated with this intervention are costs for the operationalization of the armed forces (construction or reorganization of military academies, headquarters, bases and checkpoints, maintenance); those associated with territorial protection tasks, such as the construction of border control posts; materials and equipment for the protection of protected areas and for evacuating inhabitants of precarious areas in the event of foreseeable disasters. The benefits arising from the establishment of the armed forces are the reduction of General Customs Administration losses at the borders, the reduction of deforestation and the preservation of biodiversity, and the reduction of human losses due to natural disasters. On the basis of the available data, a low benefit-cost ratio of 1.6, at a discount rate of 5%, indicates that this intervention would not be profitable.

## 0.2 Policy Summary

### 0.2.1 Overview and Context

#### 0.2.1.1 Issue

Since the dawn of time, the defense of his interests has been one of the principal preoccupations of man. With the constitution of states, the defense of territory quickly came to be felt as an imperative. Hence the need to erect various means of defense in order to avoid any threat from outside. The evolution of ways of thinking and technological advances have changed nothing, except that approaches have evolved over time. Haiti is no exception to this rule and, with the presence of the Blue Helmets through the United Nations Haitian Stabilization Mission (MINUSTHA)<sup>1</sup> since 2004, the question of sovereignty and territorial defense are vital in debates.

However, one question remains: What defense policy for the country? It is true that the 1987 Constitution and its amended version present the two operational components of this policy, namely the Armed Forces of Haiti (FAD'H) and the National Police of Haiti (PNH), but it must be observed that since 1995, only the PNH has been operational, fulfilling at the same time the tasks that should go to the FAD'H. This situation raises a lot of questions in the country as to the decision whether to put in place an armed force in Haiti or not. The Strategic Plan for the Development of Haiti (PSDH) seems to provide part of the answer by inserting it as a subprogram, Institutional Rebuilding. In the same way, official measures have been taken with a view to its implementation<sup>2</sup>.

Nevertheless, doubts remain. Hence the need to study the costs and benefits of the application of the constitutional requirements concerning security forces. This study proposes to provide part of the answer by making a benefit-cost analysis of the implementation of armed forces.

#### 0.2.1.2 Intervention

The intervention consists of various activities (recruitment, training, construction/repair of infrastructure, acquisition of materials and equipment) leading to the establishment of an armed force consisting of three corps: army, navy and air force. With a target of 6,500 military personnel by 2050, these forces will rely on demobilized FAD'H members who wish to return to active duty and who meet the conditions (age, physical condition, criminal record), on young people who want to be part of it and on the placing under its command certain units of the PNH whose assignment corresponds traditionally to that of an armed force (for example, the Border Surveillance Unit, the

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<sup>1</sup>It was created in response to United Nations Security Council Resolution 1542. Source: [http://www.un.org/fr/documents/view\\_doc.asp?symbol=S/RES/1542\(2004\)](http://www.un.org/fr/documents/view_doc.asp?symbol=S/RES/1542(2004))

<sup>2</sup> Decree of October 9, 2015 on the organization and functioning of the Ministry of Defense

Coast Guard Unit). This force will have the mission of protecting the territory, protecting protected areas and responding to natural disasters. It will cover the whole national territory through four military regions, and will only intervene alongside the PNH on certain conditions that will be defined by the law.

## 0.2.2 Implementation Factors

### 0.2.2.1 Costs

The costs associated with the establishment of armed forces are costs related to the construction or redevelopment of military infrastructure, training, acquisition of uniforms, armaments, materials and equipment, operating costs (salary, food, fuel, electricity, maintenance, etc.) and the costs directly involved in carrying out its tasks.

Table 1.- Cost of Establishing Armed Forces, Millions of Gourdes

Construction, operation, maintenance, redevelopment	22 100.4
Territorial defense	5 658.4
Monitoring of protected areas	1 537.5
Evacuation	Included in operating costs
<b>Total</b>	<b>29 296.3</b>

Discount rate of 5%. Source: Excel spreadsheet of the cost-benefit analysis of the 'Establishment of Armed Forces' intervention, for the Haiti Priorise project, March 2017

The total cost of establishing armed forces amounts to 29,296.3 million gourdes.

### 0.2.2.2 Potential Revenue Sources

In view of the strategic interest related to the armed forces in any country, the various costs inherent in its establishment must be financed by the Treasury Department. Bilateral and multilateral cooperation mechanisms can be used.

### 0.2.2.3 Success and Control Indicators

To monitor the results of the intervention, we will use indicators such as: the number of patrols carried out on the border, the number of protected hectares, the increase in revenue of the General Customs Administration, the portion of agriculture in the GDP, etc.

### 0.2.2.4 Implementing Authority

The establishment of the armed force is the responsibility of the Ministry of Defense, in accordance with the Decree of October 9, 2015 (Article 65). It will ensure the implementation of

the defense policy, the timetable for the start of operation of the armed forces (recruitment, training), etc. Other partners must be involved in the intervention. These will be:

- The Legislative Power for the adoption of laws governing the operation of the armed forces.
- The Presidency for the publication of legislation voted on in the Moniteur.
- The Ministry of Justice and Public Security, through the PNH, in the transfer of competences to the armed force and the definition of the rules of intervention of the army alongside the PNH.
- The Ministry of the Environment for the inventory of protected areas and the reorganization of the Environmental Monitoring Corps, some members of which will be able to integrate into the armed forces.

#### 0.2.2.5 Timetable

The establishment of the force has already begun with the training and deployment of military engineers at Petite Riviere in Artibonite, Port-au-Prince, etc. We anticipate the intensification of actions beginning this year, especially with the complete withdrawal of the military component of MINUSTHA. A whole series of activities will be carried out by the year 2050 in order to achieve national coverage by the armed forces, with a size of 6,500 military personnel and the provision of legal, material and financial resources necessary for the accomplishment of their mission.

#### 0.2.2.6 Precedent

The army is one of the country's oldest institutions. It is through the army that Haiti was able to become an independent nation. However, it has always been the target of critics, particularly because of the many coups d'état to its credit. With the American occupation it was demobilized, to be reconstituted in 1928 under the name of "Gendarmerie of Haiti". Reforms have been made, but it has not succeeded in extricating itself from its dark past. Following the coup d'état perpetrated against President Jean Bertrand Aristide on September 30, 1991, it underwent a second demobilization with the publication of the Decree of January 6, 1995<sup>3</sup>. Nevertheless, no amendments were made to its presence as a part of the law enforcement forces (Article 256 of the amended Constitution of 1987). This paved the way for the Decree of October 9, 2015 on the organization and functioning of the Ministry of Defense.

#### 0.2.2.6 Risks

The principal risk that threatens the implementation of the intervention is financial. To set up an armed force would amount to increasing the weight of national resources in the national budget, strategic interest requires it. But the country is constantly facing huge budgetary problems. It is unable to collect the resources needed to finance development projects.

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<sup>3</sup>Source : <https://www.haiti-reference.com/pages/plan/histoire-et-societe/forces-de-securite/armee-decret-1995/>



One of the serious problems that could arise from the establishment of armed forces is delay in the payment of military personnel salaries, a problem already faced by the Ministry of Defense with military engineers. Other risks that may also be constraining factors for the implementation and success of the intervention:

- The presence of MINUSTHA troops
- Political will to maintain the status quo (PNH as the only law enforcement force)
- The mistrust of the population
- Violations of fundamental human rights
- Interference with political life
- Poor division of powers between the armed forces and the police
- Corruption

## **0.2.3 Justification for the Intervention**

### **0.2.3.1 Benefits**

The presence of armed forces will enable the General Customs Administration (AGD) to reduce its losses at land borders. Each year, the AGD's annual losses are estimated at more than 19 billion gourdes, due to inadequate surveillance of our border with the Dominican Republic. With just the presence of armed forces, it will be able to recover up to 43,882.9 billion gourdes over the period analyzed, from 2017 to 2050.

Armed forces will be a key element in the fight against deforestation and the preservation of biodiversity. With less than 2% coverage, Haiti is on the verge of an unprecedented ecological disaster. Hurricane Matthew, which hit the country in October 2017, has aggravated our situation from an environmental point of view. While protected areas have certainly been defined by the Ministry of the Environment and an environmental body created, armed forces can, given military discipline, contribute effectively to the protection of these spaces. Armed forces will allow savings of up to 5.9 million gourdes in carbon emissions over the reporting period.

Finally, the natural disasters that have struck the country during the last 10 years have shown the need for an armed force capable of evacuating people in the absence of any early warning system. Thus the establishment of armed forces could contribute to the reduction of loss of human life.

**Table 2. - Benefits Arising from the Establishment of Armed Forces, Millions of Gourdes**

Decrease in General Customs Administration losses at the borders	<b>43 882.9</b>
Reduction of deforestation and conservation of biodiversity	5.9
Reduction of loss of human life	1 532.6
<b>Total</b>	<b>45 421.5</b>

Source: Excel spreadsheet of the cost-benefit analysis of the 'Establishment of Armed Forces' intervention, for the Haiti Priorise project, March 2017

### **0.2.3.2 Description of Beneficiaries**

The principal beneficiaries of the intervention will be young people aged 20 to 40, irrespective of their level of education. The selection will be carried out throughout the country and will extend to young people who want to enter the armed forces and members of the FAD'H who fulfill all the conditions. It will be automatic for members of the PNH units that will be placed under the command of the new armed forces.

### **0.2.3.3 Unmeasured Benefits**

A number of benefits could not be measured in the context of our study. These include, inter alia, family wellbeing, reduced illegal land and sea travel, and gains to the national economy from indirect employment created by the establishment of armed forces, which could be a significant revenue for the agriculture sector and the sewing sector, thus contributing to increasing their share of GDP.

### **0.2.3.4 Table of Costs and Benefits**

The following tables summarize the costs and benefits of the establishment of armed forces, first in a comprehensive way and secondly according to its remit. These benefits and costs are calculated at a 5% discount rate. The Benefit-Cost Ratio (BCR) index is also calculated to determine the level of effectiveness of the intervention.

Since costs and benefits were estimated for each function, the analysis allowed us to see their relative contribution to the BCRs. The labor necessary to patrol the designated forest areas is costly. Omission of this role for armed forces increases the BCR from 1.6 to 1.9 (5% discount rate).

Table 3.- Summary of the Costs and Benefits of the Intervention

Intervention	Discount Rate	Benefit	Cost	BCR	Quality of Evidence
Establishment of Armed Forces	3%	65,606,013,614	39,578,789,078	1.7	Limited
	5%	45,421,507,376	29,296,290,610	1.6	
	12%	16,848,752,149	13,998,386,590	1.2	
Intervention	Discount Rate	Benefit	Cost	BCR	Quality of Evidence
Establishment of Armed Forces – Without Forest Patrol	3%	65,588,630,965	38,027,632,523	1.7	Limited
	5%	45,415,566,977	23,637,895,628	1.9	
	12%	16,847,756,096	10,851,984,815	1.6	

Source: Excel spreadsheet of the cost-benefit analysis of the 'Establishment of Armed Forces' intervention, for the Haiti Priorise project, March 2017

## List of Abbreviations

AGD: Administration Générale des Douanes [General Customs Administration]

DPC: Direction de la Protection civile [Directorate of Civil Defense]

FADH: Forces Armées d'Haïti [Armed Forces of Haiti]

MD: Ministère de la Défense [Ministry of Defense]

MENFP: Ministère de l'Éducation Nationale et de la Formation Professionnelle [Ministry of National Education and Professional Training]

MINUSTHA: Mission des Nations Unies Pour la Stabilisation d'Haïti [United Nations Stabilization Mission in Haiti]

MSPP: Ministère de la Santé Publique et de la Population [Ministry of Public Health and Population]

PNH: Police Nationale d'Haïti [National Police of Haiti]

PSDH: Plan Stratégique pour le Développement d'Haïti [Strategic Plan for Development in Haiti]

TIP: Triennial Investment Plan

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# 1. Introduction

The history of Haiti has always been marked by the influence of our armed forces, from the struggle for independence with the indigenous army to their various attempts to overthrow organized governments. Following the events leading to the American occupation of 1915, many changes were made, notably to the name. This model, bequeathed by the Americans at the time of their departure in 1934, would last until the publication of the Decree of January 6, 1997 restructuring the armed forces of Haiti.

However, the debate was never closed regarding its effective demobilization. Hence the decision of President Boniface ALEXANDRE to create a National Citizen Commission for Reflection on the Armed Forces of Haiti. This commission in its report presented on January 25, 2006 laid the first foundations for the re-establishment of the Armed Forces of Haiti. A few years later, President Michel Joseph Martelly created a defense and national security commission. In August 2011, this commission produced a document presenting "defense and national security policy – key points," from which the priority projects to be considered for the development of the Triennial Investment Plan were drawn: definition of the vision, missions and organization of armed forces, the development of an implementation plan, and the establishment of armed forces.

In the same vein, the book on the vision and direction of the Ministry of Defense was published on March 14, 2013, the White Paper of the said Ministry was published in June 2015 and the Decree of October 9, 2015 on its organization and operation was also published, paving the way for the remobilization of the FAD'H. In order to get an idea of the economic impact of the establishment of an armed force in Haiti, studies are needed. Hence the benefit-cost analysis that will give elements of an answer on its advisability.

## 2. Literature Review

### 2.1. Army and Legal Framework in Haiti

A principal element of Haitian independence, the army has always found its legal existence in the country's various constitutions. Throughout the history of the country, its main duties have been included there. It also received various denominations like: "Gendarmerie of Haiti" (1918), "Haitian Guard" (1932), "Army of Haiti"(1947) and "Armed Forces of Haiti "(1958)<sup>4</sup>.

Following the coup d'état of 1991 and the return to constitutional order of 1994, an order was issued on January 6, 1995<sup>5</sup> on the restructuring of the army and the police. This act marked the

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<sup>4</sup> Kern Delince, *Armée et Politique en Haïti* (2006), L'Harmattan, Paris

<sup>5</sup> Source: <https://www.haiti-reference.com/pages/plan/histoire-et-societe/forces-de-securite/armee-decret-1995/>

demobilization of the army, however no legal act was dedicated to its actual dismissal. And the amendment to the 1987 Constitution merely revised its operation.

## 2.2. State of Affairs of the FAD'H

In his book Armée et Politique en Haïti Kern Delince reviews the state of affairs of the FAD'H after the American occupation.

Inheriting the model of organization of the Gendarmerie established by the Marine Corps during the American occupation, the army was built on a hybrid model, because it engages in activities related to the duties of a police force. The army's human resources (about 7,500 men in 1967) were divided into officers, non-commissioned officers, troops and rural police officers. It should be added that, at the time of the Duvalier dictatorship, 7,000 to 8,000 men, part of the VSN, a parallel militia, directly under the control of the President of the Republic, whose main remit was the neutralization of the FAD'H<sup>6</sup>.

This institution has suffered from a whole set of problems which have constituted serious obstacles to the accomplishment of its principal task, which is the protection of the national territory. These include, among other things, the primacy of personal interests over the collective interests of the institution, lack of unity and cohesion, corruption, lack of an ideology specific to the institution, ignorance of the country's fundamental problems, mistrust of the population which considers it rather as an instrument of repression, and the incapacity of existing means to defend the integrity of the national territory<sup>7</sup>.

These principal characteristics, coupled with the very particular relationship that the military hierarchy has with the governmental authorities as well as with the economic and political elite, the army has on many occasions to exceed its duties to interfere in the political life of the country, for the consolidation of an established power, or for its overthrow.

This prompted author Kern Delince to consider three possibilities for a reorganization of the army<sup>8</sup>:

### a) Its dissolution

Economic (unproductive expenditure, negative impact on the possibility of satisfying the essential needs of the population) and military (inefficiency of the army as an instrument) reasons are the reasons advanced by the author for the pure and simple dissolution of the army. In so doing, he advises the search for bilateral and multilateral defense agreements with a view to ensuring the defense of the national territory. However, this option faces serious political controversy as to the

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<sup>6</sup> Kern Delince, *Armée et Politique en Haïti*, p 76-89

<sup>7</sup> Kern Delince, *Armée et Politique en Haïti*, p

<sup>8</sup> Kern Delince, *Armée et Politique en Haïti*, p 152-158



role of an organized public force in the maintenance of peace and security. He mentioned countries such as Costa Rica and Cuba, but he stressed that these experiments were possible under pre-established conditions. This led him to consider this option as "untimely and probably impracticable".

b) Its neutralization

Through this option, the army proclaims its withdrawal from the political affairs of the country, thus freeing itself of governmental influence and reserving a certain independence. Subjected to a civil power, it is freed from all administrative and judicial responsibility, as well as its role as guardian of the interests of the ruling class. The major difficulty in applying this option lies in the socio-economic and political realities of the country. Its implementation therefore requires a number of conditions, such as the establishment of a law-enforcement force independent of the army, the provision of materials and equipment essential for the defense and protection of the national territory, and the creation of organized political parties.

c) Its integration with the state and the nation

This option goes beyond that of the neutralization of the army and makes it an essential pillar in the economic and social development of the country. Under this approach, national defense goes beyond the scope of a possible threat of foreign evasion and is mostly aimed at combating underdevelopment. In view of the primacy of the economic aspect over the strictly military aspect, the army becomes an actor in development efforts.

### **2.3. Towards a Remobilization of the Armed Forces in Haiti**

Following the creation of the National Citizen Commission for Reflection on the Armed Forces of Haiti, a final report was dated January 23, 2006. It is true that this document does not analyze the root and incidental causes of demobilization of the FAD'H in 1995, but it sets out the various arguments in favor and against the presence of the armed forces in Haiti. Complementing the preliminary report of September 2005, it laid the first foundations for the remobilization of the Armed Forces of Haiti. According to the commission's recommendations, this new force will have to distinguish itself from the acts which were characteristic of the former force dissolved in 1995 and be built according to the conditions currently prevailing in the region, the country's budgetary constraints and the militant arguments in favor of an armed force in Haiti. The commission also recommended the clear separation of the army's tasks from police tasks, which was one of the weaknesses of the old FAD'H. The report of this commission is the principal foundation document in the establishment of our baseline scenario.

## 2.4. The Ministry of Defense Vision and Guidance Document for the Triennial Plan 2013-2016

Published in March 2013, this document presents the main axes of orientation of the Ministry of Defense through a brief history of the Ministry of Defense, a state of affairs of defense in Haiti and the pillars on which defense must be based (Civil defense, military defense and economic defense, the Ministry of Defense's spheres of action for the 2013-2016 triennial plan, which places the action on the pillar of civil defense with the establishment of the military engineering corps and the prospects of the ministry.

## 2.5 The White Paper of Defense

Published in June 2015, the White Paper on Security and National Defense is a reference in the framework of the orientation to be given to the new armed force. Drafted with the help of international partners such as the Inter-American Defense Board, the White Paper places the new armed forces in an international context marked notably by the fight against terrorism and drug trafficking and places it above all in the framework of a security doctrine in Haiti.

## 3. Theory<sup>9</sup>

Defense does not escape economic theory, whether it is its utility, the military markets or the optimization of military expenditure with, in particular, the function of defense.

### 3.1. Defense Seen as a Public Good

Defense, as well as its desired result, which is peace, are public goods. Because of this, they are characterized by non-competition and non-rivalry. These goods also encourage gratuitousness, which may give rise to disputes within a state or between allies forming part of a military alliance. This situation is due in part to the fact that citizens do not reveal their true preference about defense. This constitutes a real challenge for the State to estimate the optimum quantity of this asset despite the various theoretical solutions, especially since it is impossible for it to estimate the true price that the beneficiaries of the defense are willing to pay. Moreover, the marginal costs and especially the marginal benefits of many defense investments are not immediately evident and difficult to quantify.

### 3.2. Defense Markets

The defense market, which is a public market, differs in various ways from private markets.

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<sup>9</sup> Keith Hartley and Binyam Solomon Measuring Defence Output: An Economics Perspective, University of York, UK and Defence Research and Development Canada

### 3.2.1. Incentive Mechanisms

Unlike private markets, defense markets are exempt from incentive and penalty mechanisms. There are no incentives to stimulate and reward military commanders for seeking and introducing improvements in productivity or for identifying new profitable opportunities. Similarly, military managers are unlikely to lose their jobs for poor performance and there is no capital market to promote and reward mergers and takeovers even though they could offer savings and vertical and conglomerate improvements. As a result, they are slow to adapt to changes that are caused by budgetary pressures, new technologies, victories and defeats, and sometimes by the views of senior military leadership.

### 3.2.2. Structure of the Defense Market

Because defense is financed by a country's national resources, the government takes a monopoly position as buyer and supplier of the armed forces. Each of the armed forces is a monopoly provider of air, land and maritime systems with monopoly property rights in the air, land and maritime sectors. There are barriers to a new entry that prevent any offer of competing products. However, technical efficiency can enable activities traditionally undertaken "in-house" by the armed forces to be "open" to competition from private providers (for example, in order to identify the true marginal costs for different levels of production or service).

### 3.2.3. Uncertainties

Uncertainty dominates defense policy. Defense policy must address a range of future threats, some of which are unknown and unknowable. Assumptions are necessary about potential future allies and their responses to threats, location of threats, new technologies and the temporal dimension of threats (for example, today, in 10 to 15 years or 30 to 50 years, where uncertainties are the greatest). These uncertainties mean that forces must be capable of adapting to change and that today's defense investments must be able to cope with the threats of tomorrow. Unlike what happens in private markets, uncertainties depend on and are determined by governments, nation-states and some non-state actors.

## 3.3. The Principal-Agent Model and Public Choice

The principal-agent model can be used to search for the optimal defense choice. In this model, voters who are taxpayers (the principals) want peace, security and protection provided by the government and name "agents" (elected politicians and bureaucrats) to accomplish them. The principal-agent model has implications for cost-benefit analysis, resource utilization and efficiency in defense markets. It also has implications for measuring the benefits of defense products when they reflect a combination of choice of the principal and the agents. However, defense choices are made on political markets where the following interact:

- Voters and taxpayers seek to maximize the benefits of their votes. Nevertheless, they are generally poorly informed about defense policy, so that they address various agents to make their defense choices, namely, governments, officials from defense ministries and procurement agencies and the armed forces
- Political parties are vote maximists; governments seek re-election and are agents of the voters.
- Bureaucracies can be modeled as maximizing the budget, acting as agents of government. Ministries of Defense and the Armed Forces, as budget maximists, are tempted to overestimate the threat and underestimate the costs of their preferred policies and projects. Exaggerating the threat of terrorism allows the Armed Forces to obtain larger defense budgets. Underestimating the costs of a new weapon system in a cost-benefit analysis allows the project to start, and once launched projects create interest groups and become difficult to stop.
- Producer groups are claimants of profits or rent in their role as agents of the defense procurement agency or the military bureaucracy. They seek to influence political parties and bureaucracies in search of lucrative defense contracts. Defense contractors are also incited to make optimistic claims to boost perceived benefits and increase their chances of obtaining valuable defense contracts. Rarely is attention paid to opportunity costs: namely, whether the resources used in a defense project could provide even greater net economic benefits if they were used in alternative sectors of the economy.

On the whole, public choice models and principal agents reveal how particular interest groups influence military investment decisions and defense outcomes. Hence the difficulty of the optimizing solution of the economist to apply.

### 3.4. The Production Function of Defense

Another contribution of economic theory to the measurement of production takes the form of the military production function. It is an input-output relationship that attempts to link all defense inputs to a final defense output. Inputs include technology, capital (bases, equipment, spare parts, etc.) and labor (military personnel in the form of conscripts and/or volunteers, civilians, contractors).

Although this model seems attractive, there are at least four major caveats. First, a production function assumes that incoming factors are combined to minimize costs. This assumption is unrealistic given the lack of incentives for efficiency in domestic defense markets. Second, all defense inputs must be identified and properly assessed. Third, defense production is simply affirmed without recognizing the problems of identification and measurement of production, including the nature of overall defense production. Fourth, the model only identifies the results

of defense resulting from various contributions. There are no criteria to determine society's preferred defense production ("optimal" defense production).

### **3.5. Defense-Economic Growth Relationship**

A considerable literature has been developed on the relationship between defense spending and the benefits to a nation's economic growth. There are two alternative hypotheses. First, the view that defense spending favorably affects the economy's rate of growth. Second, the contrasting assumption that military spending negatively affects the rate of growth of a nation.

## **4. Calculation of Costs and Benefits**

### **4.1. Presentation of the Intervention**

#### **4.1.1. Description of the Intervention**

The present intervention is based on the report of the National Citizen Commission for Reflection on the Armed Forces of Haiti, which proposed the creation of a new army whose missions would be (1) the protection of the national territory through the monitoring and control of the border area and Haitian coasts, (2) the protection of forests and restricted areas, and (3) the evacuation of inhabitants from precarious areas in the event of foreseeable natural disasters. The intervention covers a period of 33 years, 2017 – 2050, and encompasses a whole range of activities. Some will have to be carried out in a short period: the definitive treatment of cases of demobilized military personnel and the integration on request of those who meet the requirements of the armed forces and are not in conflict with the law; and the constitution of a provisional staff. Others will be spread over the medium and long term, including the drafting, adoption and publication of laws relating to the armed force; the constitution of a staff following the definitive pattern of the armed force; the construction (or redevelopment) of military infrastructure; the placing of several units of the PNH under military command; recruitment of military candidates; the acquisition of materials and equipment; and deployment of the military, as well as the tasks under their responsibility.

#### **4.1.2. Financing of the Intervention**

Since armed forces represent one of the institutions for safeguarding national sovereignty, the financing of its establishment and operation must be based on national resources (Public Treasury and other Counterpart Funds). Nevertheless, the country will be able to count on bilateral and multilateral cooperation mechanisms. Certain aspects of these mechanisms are already in motion, including training of military engineers in Ecuador and participation of the Inter-American Defense Board in the drafting of the White Paper on security and national defense.

### 4.1.3. Objectives of the Intervention

The principal objective of this intervention is the safeguarding of national sovereignty. It is a question of, through this intervention, regaining effective control of our territory by monitoring our land and sea borders, of curbing deforestation and preserving the country's biodiversity, and of having the capacity to carry out an evacuation within a very short time.

### 4.1.4. Counterfactual Scenario

The presence of MINUSTHA, the PNH's inability to effectively control the border area and the various natural disasters that the country has had to face have rekindled the debate on the need for armed forces. To decide to do without them will require reforms in remit, which will have to have more legal, material, human and financial means to fill the absence of the armed forces, especially with the departure of MINUSTHA planned for the month of October 2017<sup>10</sup>. In addition, the Directorate of Civil Defense will have to be strengthened to allow it greater intervention capacity, and all other state structures involved in emergency and evacuation operations will have to be strengthened also.

## 4.2. Determination of the Target Population

Our intervention is aimed at the population aged between 20 and 40, irrespective of gender, social and religious background. The recruitment process will take place throughout the national territory and will aim to integrate 186 military personnel each year into the armed forces, with a view to complementing the number of military engineers already in service. This will enable it to employ 6506 troops in 2050.

Table 4. – Determination of the Target Population

Indicators	Values	Sources
Current military engineers	148	Ministry of Defense
Planned military strength in 2050	6506	Hypothesis <sup>11</sup>
Number of military personnel to be trained each year	187	Calculation

Source: Excel spreadsheet of the cost-benefit analysis of the 'Establishment of Armed Forces' intervention, for the Haiti Priorise project, March 2017

### 4.3. Description and Calculation of Costs

The establishment of armed forces with the missions of protection of the territory, monitoring of protected areas and intervention in the event of foreseeable disasters will require significant expenditure.

<sup>10</sup> Le Nouvelliste, No 39919, Saturday and Sunday March 18 and 19, 2017

<sup>11</sup> Citizen Commission on the Armed Forces of Haiti Report

### 4.3.1. General Costs

The establishment of the armed forces first involves the construction or redevelopment of three military academies (647 million gourdes) and headquarters for the four military regions (862.8 million gourdes), and their maintenance (150.9 million gourdes per year). The calculation of the cost of these infrastructures is estimated on the basis of the amount allocated in the PIP 13-14 for the construction project of the Ganthier Police Academy <sup>12</sup>. The use of data on Haitian inflation provided by the World Bank <sup>13</sup> made it possible to calculate the equivalent costs for 2017.

Next come the costs associated with the training of military candidates, amounting to 185 million gourdes per year, or on average 990 thousand gourdes annually per candidate. These calculations were based on the cost of training each young person in the framework of the Mandatory Joint Civic Service Program (PSCMO)<sup>14</sup>.

They must also be dressed (three uniforms per year), fed (at a rate of three meals per day) and armed, and all the means to ensure the proper functioning of the various military infrastructures (water, electricity, fuel, communication) must be put at their disposal. The projection for these expenditures is 21.4 billion gourdes over the period studied. The cost of food per soldier has been estimated from the price charged by certain dealers belonging to the area<sup>15</sup>. The price of uniforms was also estimated through market prices <sup>16</sup>. The other costs were estimated from the report of the Ministry of Defense of the Dominican Republic on expenditures for the fiscal year 2013-2014. These costs have been converted into local currency, and equivalent values for 2017 have been calculated.

Finally, there is compensation for military and civilian personnel to be employed in construction and maintenance, as well as chefs and cooks. Wage expenditure amounted to 17.8 billion gourdes over the period. These costs have been estimated from data on the salaries of military personnel in the Dominican Republic, data from PSCMO (chefs and cooks).

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<sup>12</sup> Source MPCE/DIP

<sup>13</sup>Source: <http://databank.banquemonddiale.org>

<sup>14</sup> Revised project document "Centre de formation et mise en place du service civique mixte obligatoire"

<sup>15</sup> This is the price that currently prevails in some restoration points of the capital

<sup>16</sup> Source: [www.rotco.com](http://www.rotco.com)

Table 5.- General Costs, Millions of Gourdes, 2017 - 2030

Parameters	Value	Source
Redevelopment/Construction of military academies	16 942,6	MPCE/DIP
Training of military personnel	6 296,6	PSCMO
Uniforms	8 230	Calculation <sup>17</sup>
Military personnel payments	647,1	Ministry of Defense of the Dominican Republic
Redevelopment/Construction of military headquarters	862,8	MPCE/DIP
Security equipment (arms)	3 051,5	Ministry of Defense of the Dominican Republic
Maintenance of military academies and headquarters in military regions (including rolling stock)	5 133,5	MPCE/DIP
Feeding military personnel	12 850,8	PSCMO
Communication	136,1	Ministry of Defense of the Dominican Republic
Fuel	127,9	Ministry of Defense of the Dominican Republic
Electricity	42,9	Ministry of Defense of the Dominican Republic
Water	2,3	Ministry of Defense of the Dominican Republic
Payment of civil personnel	830,7	PSCMO
<b>TOTAL</b>	<b>55 155,1</b>	

#### 4.3.2. Territorial Defense

In order to carry out its mission of territorial defense, the construction or redevelopment of barracks and border checkpoints, as well as their maintenance, is of paramount importance to the army. They number 30 (16 barracks and 14 border control posts) and will cost 7.55 billion gourdes. Some of these barracks belonged to the FADH. They will be taken over by the army for strategic reasons. The number of barracks was established by assumption according to where troops were stationed in 1915<sup>18</sup>, with one regiment per commune, with the exception of the capitals of military regions (2 regiments). The number of border control posts is based on the number of control points listed by the State <sup>19</sup>. The costs of these infrastructures is estimated according to construction plans drawn up by the Directorate of Prison Administration in its investment budget for the financial year 2015-2016. These amounts have been calculated with the equivalent amounts for 2017.

<sup>17</sup>Source: www.rotco.com

<sup>18</sup> Citizen Commission on the Armed Forces of Haiti Report, p55

<sup>19</sup> Ministry of Defense, Vision and Orientations, March 2013, p22



Consideration should also be given to the construction or redevelopment of bases, as well as their maintenance, for the Haitian Navy. There will be three and the cost will be 3.6 billion gourdes. Costs are estimated from the projection for the construction of the Port des Cayes for the fiscal year 2013-2014<sup>20</sup>, from which equivalent amounts were drawn for 2017.

The total cost amounts to 11.2 billion gourdes.

**4.3.3. Monitoring of Protected Areas**

The monitoring of areas involves the construction of posts in the immediate vicinity of these areas. The intervention involves the construction of 14 posts dedicated to the monitoring of protected areas. Their costs were estimated in a similar way to those of the border control posts, amounting to 1.5 billion gourdes. The detrimental benefits will also constitute a cost and are spread over the period studied, totaling 81 million gourdes.

**4.3.4. Intervention in the Event of Foreseeable Natural Disasters**

Labor constitutes the only component of costs. The cost is included in the salaries of military personnel.

**Table 6 Summary of Costs, Millions of Gourdes**

Discount rate	3%	5%	12%
Construction, operation, maintenance, redevelopment	30,838.4	22,100.4	9,333.7
Territorial defense	7,189.2	5,658.4	3,146.4
Monitoring of areas	1,551.2	1,537.5	1,518.3
Total (discounted)	39,578.8	29,296.3	13,998.4

**4.3.5. Unmeasured Costs**

In the framework of costs that could not be calculated due to the difficulty in collecting adequate data, there are:

- For aviation: cost of construction of bases, cost of materials and equipment
- For the Haitian Navy: cost of materials and equipment

**4.4. Description and Calculation of Benefits**

The intervention will bring many benefits to the country as a whole. The quantifiable and quantified benefits in our work are: reduction of losses at the General Customs Administration,

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<sup>20</sup> Source: MPCE/DIP

reduction of deforestation and conservation of biodiversity, and reduction of loss of human lives in the event of natural disasters.

#### **4.4.1. Reduction of General Customs Administration Losses at Land Borders**

Haiti is separated from the Dominican Republic by nearly 350 km of border. Unfortunately, of the 84 crossing points between the 2 countries, only 14 are listed by the state and only 4 are official and provided with control agents. The explanation for this porosity on our border is also found in the inability of PNH agents, who are not trained to patrol the border's harsh physical conditions. As a result, revenues from the Public Treasury are seriously affected, with annual losses of around 19 billion gourdes. Also, no data is available on losses that could be resulting from inefficient monitoring of our 1,771 km of coastline and our airspace. The presence of armed forces will lead to the effective resumption of control of our borders and will contribute to the increase in customs revenues, which could reach 116.2 billion gourdes over the period studied.

#### **4.4.2. Reduction of Deforestation and Preservation of Biodiversity**

With the adoption of the decree on environmental management and the creation of an environmental monitoring body, progress has been made in improving the management of the Haitian ecosystem. With the PSDH, the management of the environment is positioned as one of the axes of territorial re-foundation. In addition, areas considered vital for the protection and maintenance of biological diversity are placed under special protection. Armed forces can play an important role in environmental sustainability, identified by the White Paper as one of the country's interests that should be preserved. Its presence and action will provide the country with benefits that could amount to 8.5 million gourdes.

#### **4.4.3. Reduction of Loss of Human Life**

Because of its geographical location, Haiti is exposed to a large number of natural threats of climatic origin (tropical storms, floods, drought, earthquakes), which have a negative impact on the development of the country. Hurricane Matthew shows the extent of our vulnerability to natural disasters (more than 500 people killed and the need to raise more than 180,000 billion gourdes). As part of efforts to reduce our vulnerability to natural disasters, armed forces will play an important role in evacuating people in precarious areas in the event of foreseeable disasters. As a result, it will provide the country with benefits amounting to 1.5 billion gourdes, the present value at 5%.

Table 7 Summary of Benefits by Function, Millions of Gourdes

Discount Rate	3%	5%	12%
Reduction of General Customs Administration losses at borders	62,892.1	43,882.9	16,488.5
Reduction of deforestation and conservation of biodiversity	20.4	7,5	1,2
Evacuation	2,696.6	1,532.6	359.3
<b>Total (discounted)</b>	<b>65,609.1</b>	<b>45,423.1</b>	<b>16,848.9</b>

#### 4.4.4. Non-Economic Benefits

Aside from the economic benefits of armed forces for our country, it is also appropriate to set forth non-economic benefits, such as national pride. In view of the place of the indigenous army in the independence of the country, some consider the demobilization of the FAD'H to be an insult. This feeling is reinforced by the presence of MINUSTHA soldiers.

#### 4.4.5. Unmeasured Benefits

In this study, some benefits could not be measured. They are:

- Benefits arising from the fight against drug trafficking
- Benefits to the PNH which handles the tasks for which it was constituted
- Savings are made with the assumption by the army of the transport of equipment during the elections <sup>21</sup>.
- There are also gains for the national economy from the indirect employment created by the introduction of armed forces, which could be significant revenue for the agriculture sector, and the sewing sector, thus contributing to an increase in their share of the GDP.

## 6. Conclusion

In order to contribute to the strengthening of the administration of justice and security in Haiti, we proposed an intervention on the establishment of an armed force. Through this document, an analysis of the costs and benefits resulting from the implementation of this intervention has been made. The estimation of costs and benefits has allowed us to reach certain conclusions. The impact of this intervention is limited and not very beneficial, reflected in its BCR of 1.6 at a discount rate of 5%. Each gourd invested in this intervention will generate a profit of 1.6.

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<sup>21</sup> Lors des dernières élections, cette tâche a été sous la responsabilité de l'UNOPS

What's more, the implementation of this intervention would require enormous budgetary efforts. Considering only the cost of constructing and redeveloping military infrastructure, over 14 billion gourdes are needed, or on average of 453 million gourdes. However, on the whole of the Triennial Investment Plan (TIP) 2014-2016, the budget estimates for the Ministry of Defense were only 55 million gourdes. By what would amount to increasing the investment budget of the Ministry of Defense by about 400 million gourdes annually. If we compare the costs in the year 2017 of the study with the budget estimates, we find that the Ministry of Defense budget represents only 0.4% of the total projections, so the application of study costs to the budget would increase its weight, raising it to 2.5%. And yet the budget is also financed by external resources. This would reduce the resources allocated to other sectors or lead to seeking alternative sources of funding. Based on these considerations, the introduction of a force would not be a relevant factor in framework of efforts to make Haiti an emerging nation in 2050.

However, it should be pointed out that some costs could not be calculated, and, above all, that the implementation of the intervention has already begun, with the presence of more than 100 military engineers in various places and others on the way to join them. In addition, in his policy statement, Prime Minister Jack Guy Lafontant placed the establishment of the army as one of the priorities of his administration. This suggests that there is a favorable political response to this issue.

Since costs and benefits were estimated for each function, the analysis allowed us to see their relative contribution to the BCR. The labor required to patrol the designated forest areas is costly. Omission of this role for armed forces slightly increases the BCR from 1.6 to 1.9 (5% discount rate).

**Table 8.- Summary of the Costs and Benefits of the Intervention**

Intervention	Discount Rate	Benefit	Cost	BCR	Quality of Evidence
Establishment of Armed Forces	3%	65,606,013,614	39,578,789,078	1.7	Limited
	5%	45,421,507,376	29,296,290,610	1.6	
	12%	16,848,752,149	13,998,386,590	1.2	
Intervention	Discount Rate	Benefit	Cost	BCR	Quality of Evidence
Establishment of Armed Forces – Without Forest Patrol	3%	65,588,630,965	38,027,632,523	1.7	Limited
	5%	45,415,566,977	23,637,895,628	1.9	
	12%	16,847,756,096	10,851,984,815	1.6	

## 7. Recommendations

With the commencement of implementation of the intervention materialized by the presence of military engineers, added to the lack of data on certain costs and benefits arising from it, it becomes clear that the question to be answered is whether further implementation of the intervention should be continued. Based on these considerations, we make the recommendation that a more in-depth cost-benefit analysis on the implementation of armed force be made considering the following points:

- a) A comprehensive development plan that takes into account all costs and benefits associated with the establishment of armed forces. This plan should take into account the budgetary constraints facing the country. It will also have to keep accounts of scenarios of cooperation or non-cooperation in military matters.
- b) Identifying the benefits arising from the transfer of equipment from MINUSTHA troops when they depart, their maintenance costs and plans for their replacement.
- c) The definition of other interventions to reinforce the benefits identified with the introduction of armed forces, such as a local procurement policy especially for uniforms and food.

## 8. Bibliographic References

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Haiti faces some of the most acute social and economic development challenges in the world. Despite an influx of aid in the aftermath of the 2010 earthquake, growth and progress continue to be minimal, at best. With so many actors and the wide breadth of challenges from food security and clean water access to health, education, environmental degradation, and infrastructure, what should the top priorities be for policy makers, international donors, NGOs and businesses? With limited resources and time, it is crucial that focus is informed by what will do the most good for each gourde spent. The *Haiti Priorise* project will work with stakeholders across the country to find, analyze, rank and disseminate the best solutions for the country. We engage Haitians from all parts of society, through readers of newspapers, along with NGOs, decision makers, sector experts and businesses to propose the best solutions. We have commissioned some of the best economists from Haiti and the world to calculate the social, environmental and economic costs and benefits of these proposals. This research will help set priorities for the country through a nationwide conversation about what the smart - and not-so-smart - solutions are for Haiti's future.



# Haiti Priorise

Un plan de **développement** alternatif

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