

# ANALYSIS OF ECONOMIC AND SOCIAL EFFECTS OF PUEBLO VIEJO MINING PROJECT

DOMINICAN REPUBLIC 2011



Meeting between community representatives  
and supervisors of the Pueblo Viejo Dominicana Corporation  
community relations team  
August 2010





Centre for Social  
Responsibility in Mining

The Centre for Social Responsibility in Mining (CSR.M) is a leading research centre, committed to improving the social performance of the resources industry globally.

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Since 2001, we've contributed significantly to industry change through our research, teaching and consulting. The bottom line: we help build capacity to manage change in more effective ways. This is our mission.

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# ACKNOWLEDGMENTS

The research team acknowledges, firstly, the people of the Dominican Republic and especially the local communities in Sánchez Ramírez and Monseñor Nouel for their hospitality throughout the research process.

At the same time, the authors would like to thank the people, and organizations that kindly provided information, insights

and time during the investigation and data collection stages.

We would also like to thank Barrick Gold and in particular, its Executive and Corporate Affairs and Community Relations teams, for supporting this research in terms of resources, time and their commitment to the research's goals and objectives.

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**ISBN: 978-0-9581710-5-2**



# PREFACE

The research was conducted during the last quarter of 2010 and the first semester of 2011. It included planning the field work, conducting interviews, collecting data, reviewing secondary sources of information, carrying out analysis, internal and external session discussions and writing up the final report.

This document contributes to the ongoing understanding of the potential impacts and effects of the Pueblo Viejo mining project on the human development and general progress of the people of Dominican Republic. We explain the most significant and potential effects of the project and provide some key recommendations to effectively transform its effects into social capital and an improved level of human development.

Current market conditions and new mining projects are providing extraordinary, positive and long term possibilities for improving the social and economic wellbeing in host communities through employment, productive linkages, taxes, and better organised communities. However, in order to transform these possibilities into realities, society as a whole, including the state, local governments, institutions, communities, individuals and mining companies must negotiate a common view that goes beyond the narrow interests of its constituent parts.

This is the context of this research and we encourage our readers to go through this document with a critical, but optimistic view, thinking about the local communities' present and future.

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# ABOUT THIS RESEARCH

## OBJECTIVES AND STRUCTURE

This document presents the results of an analysis of expected economic and social effects of Pueblo Viejo mining project on the Dominican Republic. The project is currently under construction (2008-2012) and is expected to remain in operation for a period of 20 to 25 years.

**The research follows two main objectives:**

### BOX 1

#### OBJECTIVES OF THE RESEARCH

- I. To analyse the main economic and social effects of the Pueblo Viejo mining project in the area directly influenced by the project and to investigate the project's potential to improve human development in the Dominican Republic.
- II. To provide an informed contribution to current discussions regarding the economic and social effects of large scale mining in developing countries.

**The analysis and the research findings are organized into four sections:**

#### INITIAL CONSIDERATION AND CONTEXT ANALYSIS

The first section presents some important aspects in relation to the mining context: the key questions to understand the effects of mining on host communities, a description of the concept of mining activities, the evolution of the mining sector's contribution to gross domestic product (GDP) in Latin American and the Dominican Republic's position in terms of human development and poverty compared with the rest of Latin America.

#### PUEBLO VIEJO PROJECT DESCRIPTION

This section presents the general background to the project and describes its areas of direct socioeconomic influence.

#### SOCIAL AND ECONOMIC EFFECTS

This section analyses the social and economic contribution project, namely: gross domestic product, investment, exports, tax, local demand and employment. This section also examines how these factors impact upon human development and social conditions in the areas of influence.

#### KEY FACTORS TO MAXIMIZE PUEBLO VIEJO'S POSITIVE IMPACTS

This section presents recommendations in terms of those key factors that will enhance the likelihood that the positive effects of the project materialize and are transformed into social capital and a higher level of human development in the areas of influence and in the Dominican Republic in general.

#### LIMITS OF THE RESEARCH

This type of research is broad in perspective and is designed to provide a global overview of the socio-economic impacts the host community and the Dominican Republic as a whole are likely to experience as a result of the mine. Thus, the current report is not intended to be an in-depth evaluation of each of the topics raised here.

The report is based on secondary data and CSRSM has made every effort to ensure the veracity of the facts and figures used in writing this report. No surveys or any other type of primary data collection were undertaken for this report.

In the process of conducting research for this report CSRSM found that there was very little information available at the provincial level in the Dominican Republic. We were therefore unable to fully calculate the impacts at the local level.

This report has been written in its entirety by CSRSM staff.





# INITIAL CONSIDERATIONS AND CONTEXT

KEY QUESTIONS

A NEW APPROACH TO MINING AND SOCIAL LICENSE

MINING GDP IN LATIN AMERICA

HUMAN DEVELOPMENT IN THE DOMINICAN REPUBLIC

# KEY QUESTIONS

The first key question that the mining sector and any new mining project needs to respond to is in relation to the impacts and effects it has on society as a whole.

This question is now asked by specific groups in the project's area of influence, by its stakeholders and also by the rest of society.

To provide a satisfactory answer to this question we need to carry out a comprehensive economic and social

analysis of the impact and effects the project will have on society.  
  
Of course this is not a simple matter considering the growing expectations of mining activities and the current dynamism in mining and extractive industries in general across the world.

The key questions regarding large scale mining projects and their impacts can be summarised, but not limited, to the following four:

BOX 2

KEY QUESTIONS FOR LARGE SCALE MINING PROJECTS

Key Question 1

What are the project's direct impacts? That is, how will the project affect local investments, foreign investments, exports and gross domestic product, economic expectations, increased tax revenues, employment and local demand?

Key Question 2

How will these impacts transform the country's human development, the quality of life and the wellbeing of communities and localities near the project?

Key Question 3

What is the depth and sustainability of these transformations beyond the direct and short term life cycle of the mine?

Key Question 4

What roles need to be played by the company, the state and interest groups in order to maximize the positive social and economic effects of the mining activity?

In the past, to answer these questions, it seemed sufficient to describe mining projects based on narrow economic and technical data. Now, however, it is essential to examine not only the direct economic contribution to the host country but also the quality of life of its people beyond the direct and short term life cycle of the mine.

This means that apart from needing to know the project's contribution to the

country's exports and the national GDP it is essential to know how the project can affect the country's industrial matrix, the capacity it has for creating new zones of development, how it increases local demand for goods and services, and finally, how these changes will impact people and local communities.

At the same time, in the course of answering these questions, it is also necessary to consider what roles social

actors need to play in order maximise each of the effects mentioned above.

This document does not provide complete answers to all of these questions, but rather is intended to be a working document that serves to supply background information for the company, interest groups, the Dominican society and the wider community to inform their own evaluations of these key questions.

# A NEW APPROACH TO MINING ACTIVITY AND SOCIAL LICENSE

An important aspect for setting the context of this research is to examine the development of the concept of mining activity and social license in the resources industry.

Today, mining cannot be understood solely as the technical process of extracting and processing natural

resources. Mining is a process of transformation and conversion of non-renewable natural resources into new economic, social and human capital in host communities and countries.

This dynamic process of transformation is determined by the local community, institutions, governments and society

in general and is therefore constantly changing and improved by all.

Box 3 summarises two different definitions of mining: the traditional definition and a definition based on corporate and social responsibility principles.

BOX 3

DEFINITIONS  
OF MINING ACTIVITY

Traditional definition

Mining is a set of activities and tasks necessary to exploit natural resources at a profitable rate. These activities include exploration, extraction,

processing, loading and transportation to related markets.

Definition based on social responsibility focused on social challenges and understood as the result of human activity.

Mining is a set of human activities that have the ability to transform non-renewable natural resources into economic and social capital and human development. This transformation process is based on a continuous interaction between the mining company and the local community, institutions, governments and society as a whole.

In this context, the social license to operate (defined as the intangible and unwritten contract with the society or social groups to enable an activity to proceed and continue) is obtained only when society and interest groups have comprehensive evidence and perceive that, according to their expectations and beliefs, transformation of natural resources is causing a significant increase in economic, social and human capital.

This is particularly important for Pueblo Viejo because it will affect the way that a social license to operate will be obtained. The information available and the way the company engages with communities and state and local governments, in this process, will be critical.

Today, communities are interested not only in an analysis that tells them that “Pueblo Viejo will impact the national GDP

by ‘X’ percentage”. They also want to know if the contribution of Pueblo Viejo to the national GDP will improve their social conditions and how they can participate more actively in this process.

With this in mind, the evaluation of the impact of the development must focus on how it affects the quality of life and the expectations held by society and interest groups.

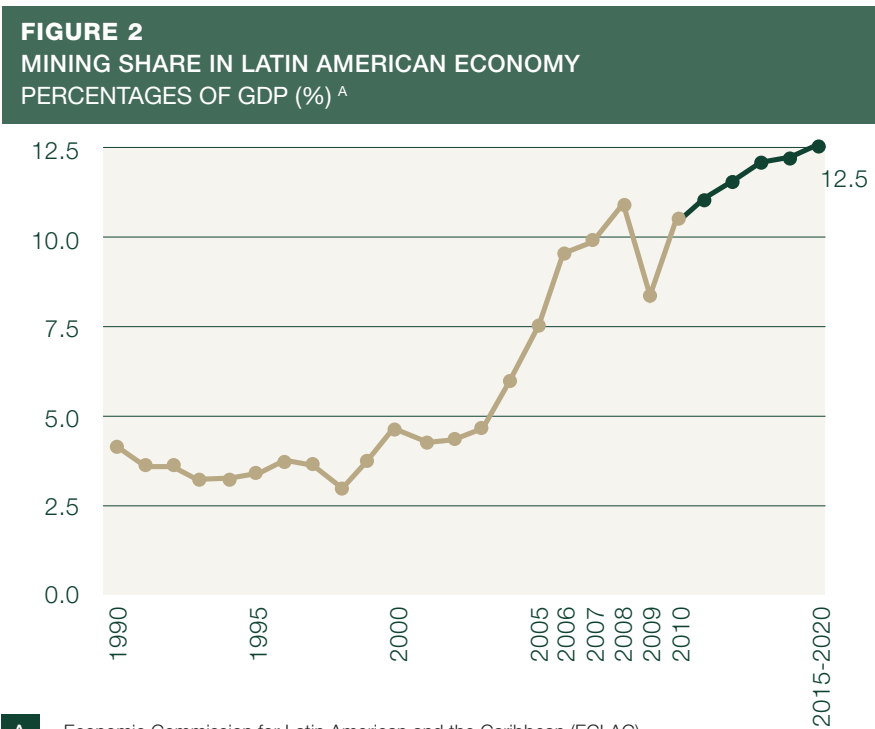
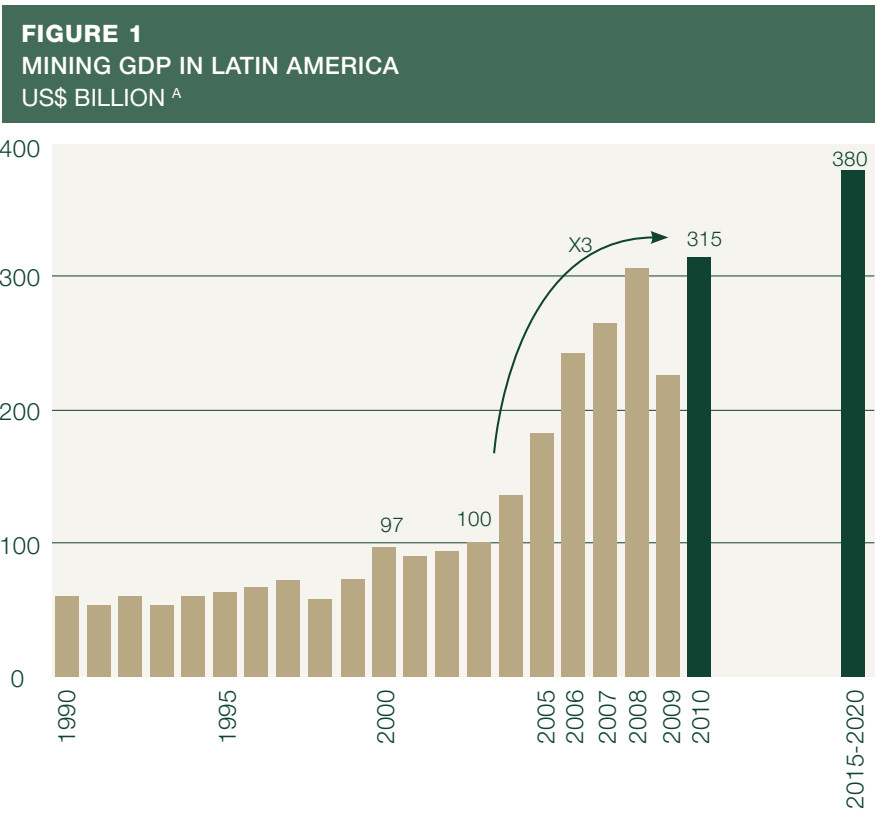
# MINING GDP IN LATIN AMERICA

A third aspect relevant to the context of the study is to build an understanding of the developmental opportunities that have resulted from mining activities in Latin America and the Caribbean.

Since 2004 the mining sector’s contribution to total GDP in the region had tripled from US\$ 100 billion to over US\$ 315 billion per year. If this trend continues (based on the realization of various projects in the pipeline) the figure will top US\$ 400 billion per year by 2020, representing an historical 12.5% of the mining sector’s contribution to total GDP in Latin America.

However, despite the significance of these figures, the important point is that the recent growth of mining activities represents an historic opportunity to improve the socioeconomic conditions of the region, assuming the growth in gross domestic product represents a creation of added value and economic wealth. What this means, in practice, is that new mining developments increase the economic resources available to the state, increases the demand for goods and services that support mining activity, creates greater job opportunities and intensifies efforts to increase the productivity of existing jobs which, from the perspective of human development, are all key aspects for developing social capital.

Therefore it is important to clarify that a central assumption of this research is that the growth of the mining sector’s contribution to GDP is not synonymous of an immediate increase in human development or social capital. This understanding is essential for any informed discussion on the relationship between mining and socioeconomic development in Latin America.



**A.** Economic Commission for Latin American and the Caribbean (ECLAC).

# HUMAN DEVELOPMENT IN THE DOMINICAN REPUBLIC

A final consideration for the contextualization of this research is to gain a better understanding of the current trends in human and social development in the Dominican Republic.

The latest Human Development Report, prepared by the United Nations Development Programme UNDP, shows that in 2010 the Dominican Republic was categorized with countries that have medium human development and is ranked 88th worldwide.

Despite progress since 1990, in this respect the country still remains below the human development indicators prevailing in the rest of Latin America and

the Caribbean, and is ranked far below countries classified as having a high human development.

Similar trends can be observed in regards to poverty levels in the country. Progress has been made but the Dominican Republic remains ranked below the average ranking for the rest of Latin America. Poverty levels decreased from 54.4% of the total population in 2002 to 41.1% in 2009 while the average for Latin American and the Caribbean was 33% of the population.

These figures are an important consideration for this study because one of the main questions regarding the social and economic impacts of extractive industries in developing countries is to understand its potential to reduce poverty and improve human development indicators.

## BOX 4

### ABOUT THE CONCEPT OF HUMAN DEVELOPMENT

"The concept of human development puts people at the centre of the development. This means people

develop their potential, increase their potential and enjoy the freedom to live the lives they value..."

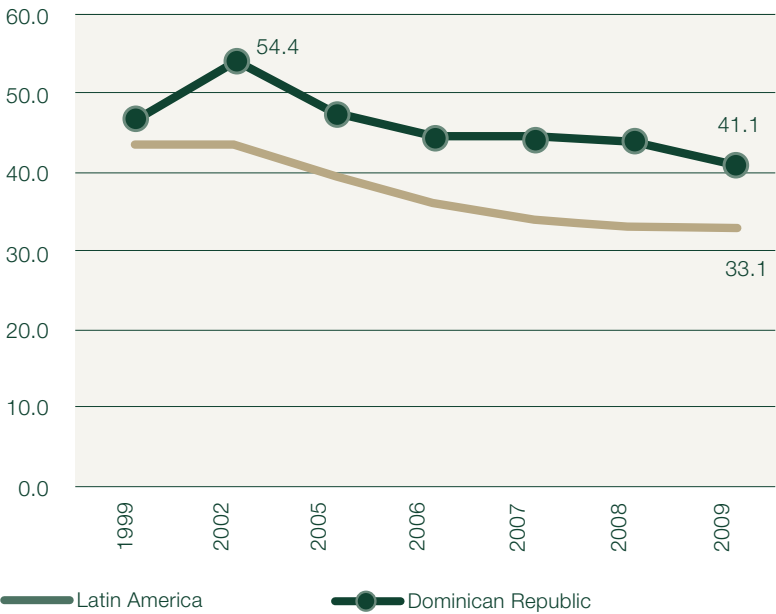
United Nations  
Development Program  
REPORT 2010

**FIGURE 3**  
HUMAN DEVELOPMENT INDEX <sup>A</sup>



**A.** United Nations Development Programme UNDP. The Human Development Index (HDI) is a summary composite index that measures a country's average achievements in three basic aspects of human development: health, knowledge and income. It was first developed by the late Pakistani economist Mahbub ul Haq with the collaboration of the Nobel Laureate Amartya Sen and other leading development thinkers for the first Human Development Report in 1990. It was introduced as an alternative to conventional measures of national development such as level of income and the rate of economic growth.

**FIGURE 4**  
POPULATION LIVING UNDER POVERTY CONDITIONS  
PERCENTAGE OF TOTAL POPULATION (%) <sup>B</sup>



**B.** Economic Commission for Latin American and the Caribbean (ECLAC). These figures used the national poverty line which is defined as a basic level of income needed to achieve a minimum standard of living or basic set of goods.



# PUEBLO VIEJO PROJECT DESCRIPTION

THE PROJECT OVERVIEW

THE SPECIAL MINING RIGHT  
LEASE AGREEMENT

PUEBLO VIEJO AREA OF INFLUENCE

PUEBLO VIEJO AREA OF INFLUENCE  
DURING OPERATIONAL PHASE

# THE PROJECT OVERVIEW

The Pueblo Viejo mining project is located in the historic district of Cotui,<sup>1</sup> in the Province of Sánchez Ramírez, approximately 100 km from Santo Domingo, Dominican Republic. This is the same sector in which Rosario Dominicana operated.<sup>2</sup>

The project is currently managed and will be operated by Barrick Pueblo Viejo a subsidiary of Barrick Gold Corporation. In 2006, Barrick acquired Placer Dome's worldwide assets including mining rights to Pueblo Viejo. To develop this project, Barrick entered into an association with Goldcorp Incorporated. Together they formed Pueblo Viejo Dominicana Corporation, which is 60% Barrick owned and 40% Goldcorp owned.

The Pueblo Viejo Special Mining Rights Lease Agreement (SLA or Acuerdo Especial de Arrendamiento de Derechos Mineros in Spanish) has been recently amended to review technical aspects and the change of ownership. The agreement was ratified by a majority in both houses of Congress in the Dominican Republic.

The investment required for the construction phase of this project is estimated at US\$ 3,800 million. The operation is expected to begin production in mid of 2012.

The useful mine life is estimated at 25 years based on proven and probable reserves of 23.7 million ounces of gold, 455 million pounds of copper and 131.3 million ounces of silver.<sup>3</sup>

1. Cotui's history is intertwined with the history of mining in the country and the continent. According to the Dominican Republic's National Society of Geology, Columbus' goal of finding a new trade route to the East Indies quickly changed when he stumbled upon the "New World" and its mineral riches. In what he called Hispaniola, in honour of Spain, he discovered that indigenous people mined the gold for use as decoration. The Spanish Royal Archives of the Indies of 1505 thus mark the beginning of gold mining in the central area of the island near present day Cotui. Sociedad Nacional de Geología. [www.sodogeo.org](http://www.sodogeo.org)
2. The original mine started in 1975 and was managed by Rosario Resources Corporation. The mine was later acquired by the state and managed under the name Rosario Dominicana. The company ceased operations permanently in 1999 due to economic and environmental factors. In 2002, Canadian company Placer Dome acquired a 33-year lease to the mine before being bought by Barrick Gold.
3. This is calculated in accordance with National Instrument 43-101 as required by Canadian securities regulatory authorities. For a breakdown of reserves and resources by category and additional information on reserves and resources, see pages 23 to 33 of Form 2009 from Barrick 40-F/Annual information.

**FIGURE 5**  
PUEBLO VIEJO UNDER CONSTRUCTION



Mine equipment being assembled at Pueblo Viejo in the Dominican Republic.

The project has reserves of 23.7 million ounces of gold (100% basis) and the mine life is estimated at more than 25 years.

Barrick holds a 60% interest in the project and is the operator of Pueblo Viejo; Goldcorp holds the remaining 40% interest.

**FIGURE 6**  
PUEBLO VIEJO PROJECT PLANT CONSTRUCTION



The process plant site at Pueblo Viejo.

# THE SPECIAL MINING RIGHTS LEASE AGREEMENT

The agreement between the Dominican State and the company is an important source of information for developing an understanding of the context of the project and the interest groups’ expectations in relation to the impact of Pueblo Viejo.

The first Special Mining Right Lease Agreement (or CEAM as is its Spanish acronym) between the Dominican State, the Central Bank of the Dominican Republic, and Placer Dome Dominicana Corporation was signed on March 25th, 2002. An amendment was signed on June 10, 2009, which legally recognized Pueblo Viejo Dominicana Corporation (PVDC) as the new owners of the mine, replacing Placer Dome.

In 2008, PVDC notified the state’s mining authority (the Secretary of State for Industry and Commerce) of its decision to develop the project and delivered a feasibility study that was reviewed by Géologique Bureau de Recherches et Minière (France). The project was subsequently approved by the Dominican State.

Our analysis of the CEAM found some important characteristics that will resonate positively with the current expectations of interest groups and in terms of the future social and economic effects of the project. In short, the CEAM privileges stability and

takes a long-term view of the investment made by the project which are both essential aspects of economic progress and human development.

**BOX 5**

**GENERAL CHARACTERISTICS OF THE CEAM**

1. It is an improvement of the previous contract
2. It was transparent and approved by an elected representative body of the people
3. Has a long term view
4. The agreement was reviewed by a third party
5. The agreement includes financial, technical and environmental specifications

**IT IS AN IMPROVEMENT OF A PREVIOUS CONTRACT**  
The current agreement takes into account new challenges and market conditions.

**TRANSPARENCY AND APPROVAL BY PUBLIC INSTITUTIONS**  
The agreement was negotiated by the Dominican State and approved by

Congress.<sup>4</sup> This represents an important “social legacy”, provides transparency in the agreement making process and makes the negotiation part of the public domain.

**LONG TERM VIEW**  
The agreement makers took a long term view of the project. The agreement includes a complete schedule of development, starting with the construction stage, to production and ending with the activities associated with the eventual closure of the mine.

**REVIEWED BY THIRD PARTY**  
The agreement was analyzed by specialist consultants, with the assistance of the Inter-American Development Bank (or BID as is its Spanish acronym). Third party review is an important proof of due diligence.

**INCLUDES FINANCIAL, SOCIAL, TECHNICAL AND ENVIRONMENTAL SPECIFICATIONS**  
The agreement considers financial aspects (cash flow, estimation of incomes and taxes among others), social aspects such as resettlement, and technical and environmental specifications as the remediation plan for zones environmentally affected prior to the beginning of the project.

4. This agreement was approved (15th of September, 2009) by the Senate of the Dominican Republic.

# PUEBLO VIEJO

## AREA OF INFLUENCE

Pueblo Viejo's level of investment and length of operation (25 years) are significant factors that will determine the mine's social and economic influence at local and national levels in the Dominican Republic.

Nationally, Pueblo Viejo has the potential to generate economic impacts on multiple provinces of the Dominican Republic including Sánchez Ramírez and Monseñor Nouel.

Production and operations facilities and activities (Mine and processing plant) will be installed in the province of Sánchez Ramírez. Monseñor Nouel, Samaná and the capital Santo Domingo, will have a considerable social and economical relationship with the project, considering the operation's proximity, administrative needs and shipment of products through them.

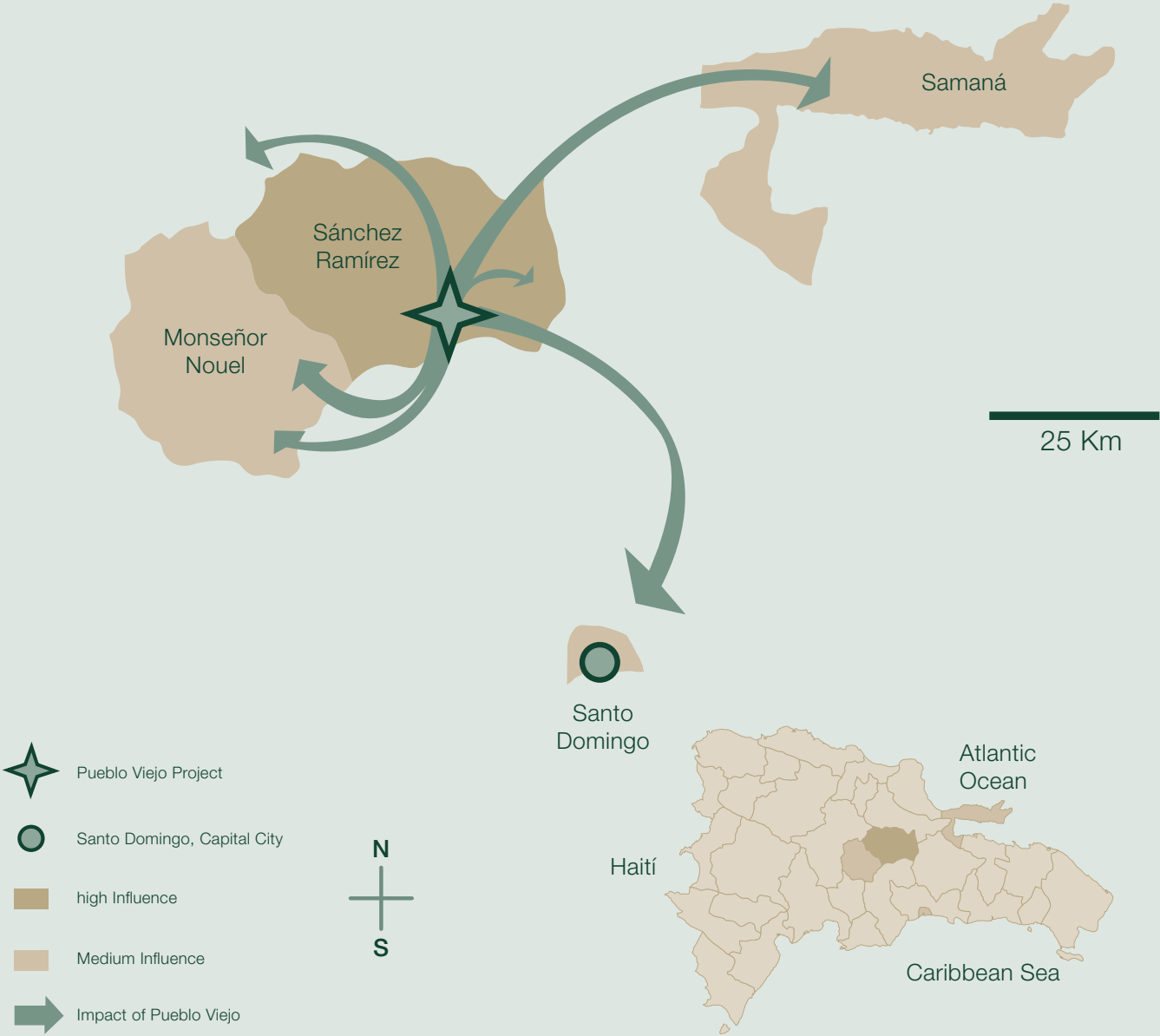
### BOX 6

#### AREA OF INFLUENCE CONCEPT

The direct and indirect effects of a project define its area of influence. Some effects are in relation to technical aspects of the projects such as the construction of processing facilities, building, roads, employment, or daily movement of goods and services from productive sites to local companies. These types of effects are sometimes visible and easier to identify.

However, large projects and their economic and social effects go beyond the technical impact because they produce a complete "chain of human relationships". When we use this approach it is more difficult to define the importance and limits of the area of influence in purely physical terms.

**FIGURE 7**  
**AREA OF INFLUENCE, PUEBLO VIEJO PROJECT.**  
**NATIONAL REFERENCE <sup>A</sup>**



**A.** Elaborated by CSRM for referential uses only.

# PUEBLO VIEJO AREA OF INFLUENCE DURING THE OPERATIONAL PHASE

At the provincial and local levels, Pueblo Viejo will directly influence various social and economic aspects of:

- The province of Sánchez Ramírez (mainly around Cotuí and La Mata),
- The northeast section of Monseñor Nouel Province (mainly around Maimón and Piedra Blanca), and rural localities around the mine and Cotuí.

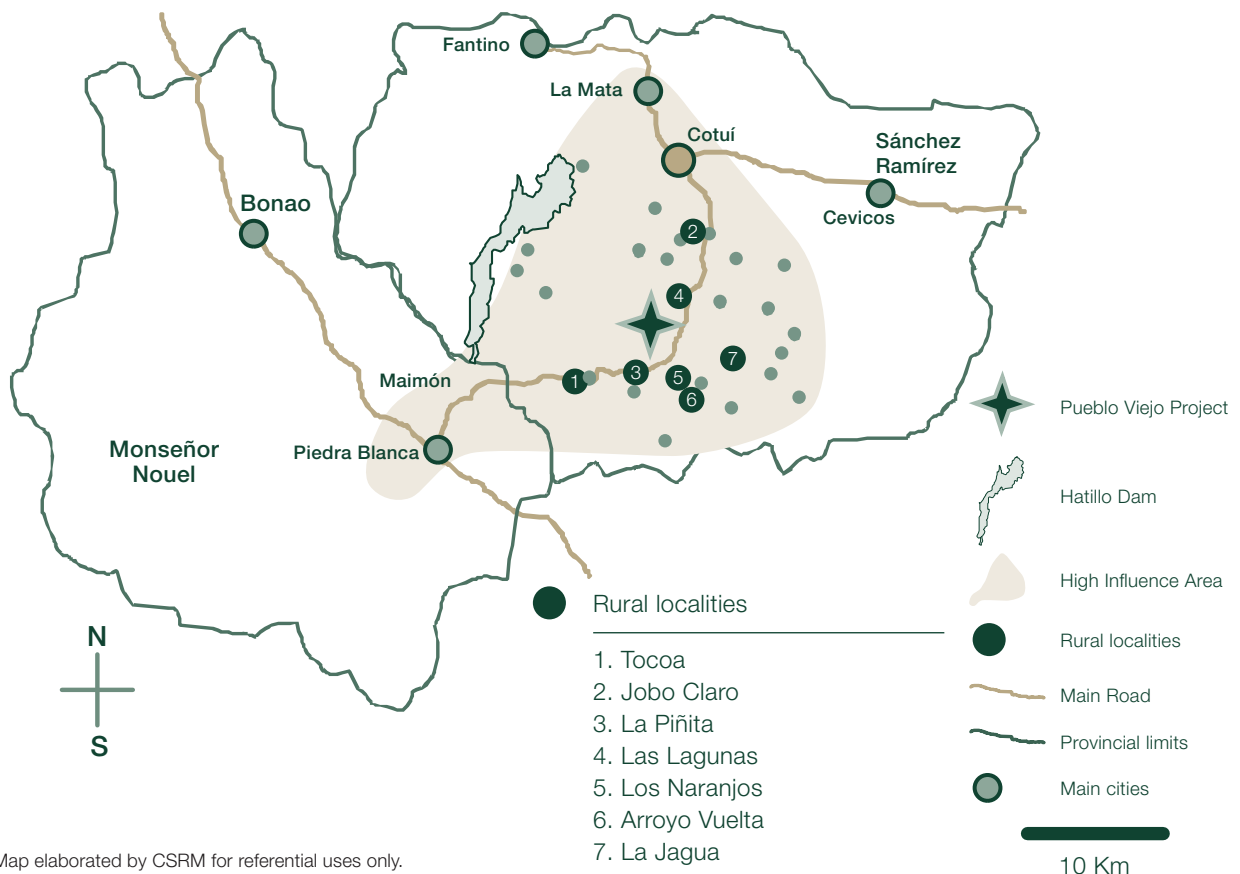
This strong socio-economic relationship with the provinces of Sánchez Ramírez and Monseñor Nouel will occur naturally as a result of the constant stream of products and services supplied to the mine and the movement of direct and indirect employees to and from the mine.

**FIGURE 8**  
STREET VIEW IN THE TOWN OF COTUÍ



A street in the town of Cotuí, Sánchez Ramírez, Dominican Republic

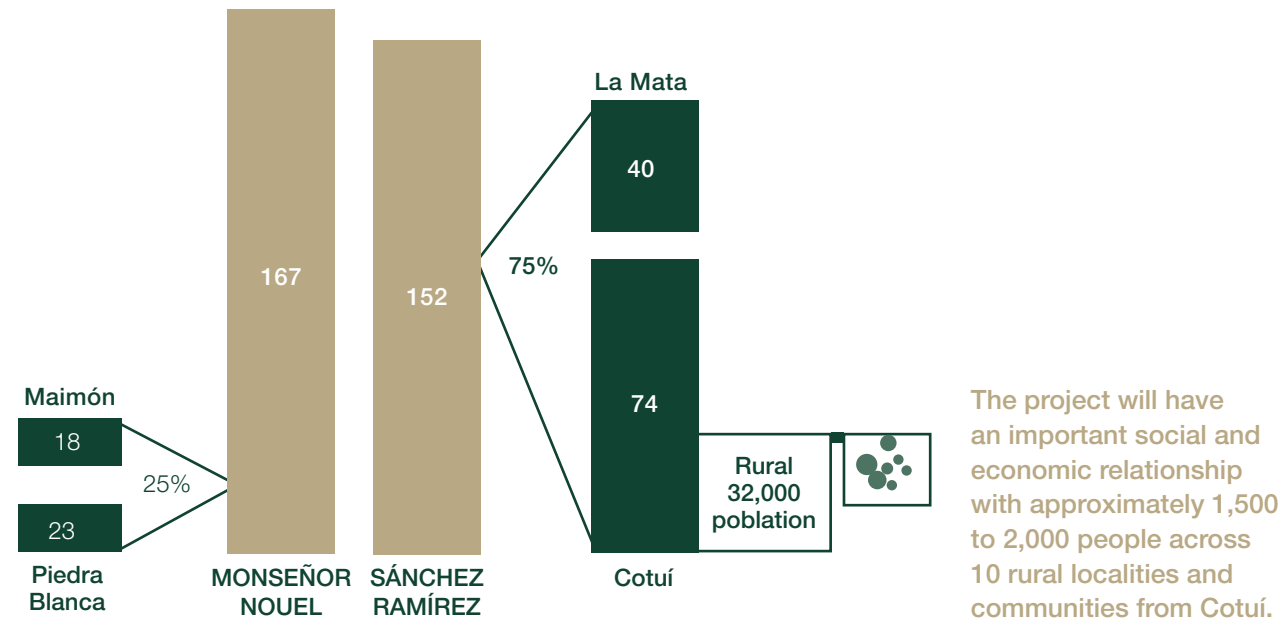
**FIGURE 9**  
AREA OF INFLUENCE OF PUEBLO VIEJO PROJECT. LOCAL REFERENCE. <sup>A</sup>



**A.** Map elaborated by CSRM for referential uses only.



FIGURE 10  
DEMOGRAPHIC DATA ABOUT PUEBLO VIEJO’S AREA OF INFLUENCE <sup>A</sup>



Thousands of People				Percentages		
	Urbano	Rural	Total	Urbano	Rural	Total
Cotuí	42	32	74	56.8	43.2	100
La Mata	10	30	40	25.0	75.0	100
Fantino	10	13	23	43.5	56.5	100
Cevicos	8	7	15	53.3	46.7	100
SÁNCHEZ RAMÍREZ	70	82	152	46.1	53.9	100
Maimón	15	3	18	83.3	16.7	100
Piedra Blanca	13	10	23	56.5	43.5	100
Bonao	73	53	126	57.9	42.1	100
MONSEÑOR NOUEL	101	66	167	60.5	39.5	100
SÁNCHEZ RAMÍREZ y MONSEÑOR NOUEL	171	148	319			
Main influence Area	80	75	155			
Main influence Area			49%			

A. Elaborated by CSRM.

Around 155,000 people are expected to have an important socioeconomic relationship with the activities of Pueblo Viejo, including 114,000 from Sánchez Ramírez Province (around 75% of the total population of the province) and 41,000 from Monseñor Nouel Province.

Currently, approximately 32,000 people live in the rural areas around Cotuí and it is expected that the project will have a strong social and economic relationship with approximately 1,500 to 2,000 people from these areas.

## RURAL AREAS NEXT TO PUEBLO VIEJO

**FIGURE 11**  
RURAL BUSINESS NEAR COTUÍ



**FIGURE 12**  
RURAL BUSINESS NEAR COTUÍ



**FIGURE 13**  
RURAL HOUSE NEAR PUEBLO VIEJO



This house located in the rural sector Sánchez Ramírez reflects the social conditions of some villages in Pueblo Viejo's area of influence.



# SOCIAL AND ECONOMIC EFFECTS

ANALYSIS OF SOCIAL AND ECONOMIC EFFECTS

GLOBAL ECONOMIC EFFECTS

EFFECTS ON GROSS DOMESTIC PRODUCT

EFFECTS ON EXPORT

EFFECTS ON THE GEOGRAPHICAL DISTRIBUTION  
OF PRODUCING AREAS

EFFECTS ON INVESTMENT

TAX EFFECTS

STATE INCOME SCENARIOS

PRODUCTIVE LINKAGES

EMPLOYMENT EFFECTS

EFFECTS ON HUMAN DEVELOPMENT

# ANALYSIS OF SOCIAL AND ECONOMIC EFFECTS

The analysis in this section seeks to illustrate Pueblo Viejo's effects on the Dominican Republic's economic and social indicators from a general perspective. It will examine the relative position of the project vis-a-vis the social make up of the country and how the project might affect society in the long term.

The analysis includes effects on exports, investment and gross domestic product, tax revenues, employment, local linkages, human development and social conditions.

This general perspective of analysis means that the effects cannot be analyzed only from one point of view and it is necessary to develop an understanding of the potential impacts on human development by using a comprehensive and cross disciplinary approach. It is also necessary to understand how these effects work in relation to each other and how they spread over time.

This means that it is important to examine the effects of Pueblo Viejo on the gross domestic product (GDP), but also the effects on employment, taxes, local demand and future social scenarios. Similarly, it is important to analyse the Pueblo Viejo's potential effects on tax collection and how these aspects could affect the state's capacity to improve the country's current and future social conditions.

On the other hand, the effects must be understood in relation to past tendencies and should be viewed in relative terms. For instance, the potential effects on poverty reduction will be more or less important in relation to past trends in poverty reduction in the area of influence, or in relation to the current level of poverty in Dominican Republic or Latin America.

Finally, the analysis, from a general perspective, means to view Pueblo Viejo's effects through the concept of Human Development. This concept privileges a long term perspective of human progress in terms of different indicators that include an improvement of people's capacities and freedoms.

**This section examines the following:**

- Global Economic Effects
- Effects on Gross Domestic Product
- Effects on Exports
- Effects on the Geographical Distribution of Producing Areas
- Effects on Investments
- Tax Effect
- State Income Scenarios
- Productive Linkages
- Employment Effects
- Effects on Human Development

# GLOBAL ECONOMIC EFFECTS

A global view of Pueblo Viejo's social and economic effects starts by examining Pueblo Viejo's expected accumulated net sales. The results show that Pueblo Viejo's accumulated net sales for the next 25 years will total US\$ 33,180m based on reserves of 23.7 million ounces of gold and assuming fixed commodity price of US\$ 1,400 per ounce.

In terms of productive linkage and business opportunities, the project will generate investments and operating expenses of around US\$ 17,365m across the life cycle of the mine (accumulated values without discount rate). The company expects to invest US\$ 3,800m, most of which will be spent in the four years from 2009 to 2012 when construction of the project takes place. The total operating expenses, ongoing capital and other costs are estimated at US\$ 13,565m based on a total cost<sup>5</sup> approximately of US\$ 450 per ounce of gold (based on a global view of Barrick Gold's operating structure worldwide).

The net sales from the project will generate state income that will go into Royalties (3.2%), Rent Tax (25%) and Participation on Net Profits Tax (28.75%)<sup>6</sup>. If these figures are put into a long term economic development perspective, the state will receive around US\$ 7,303m (equivalent to 22.0% of the total estimated net sales from this project over 25 years).

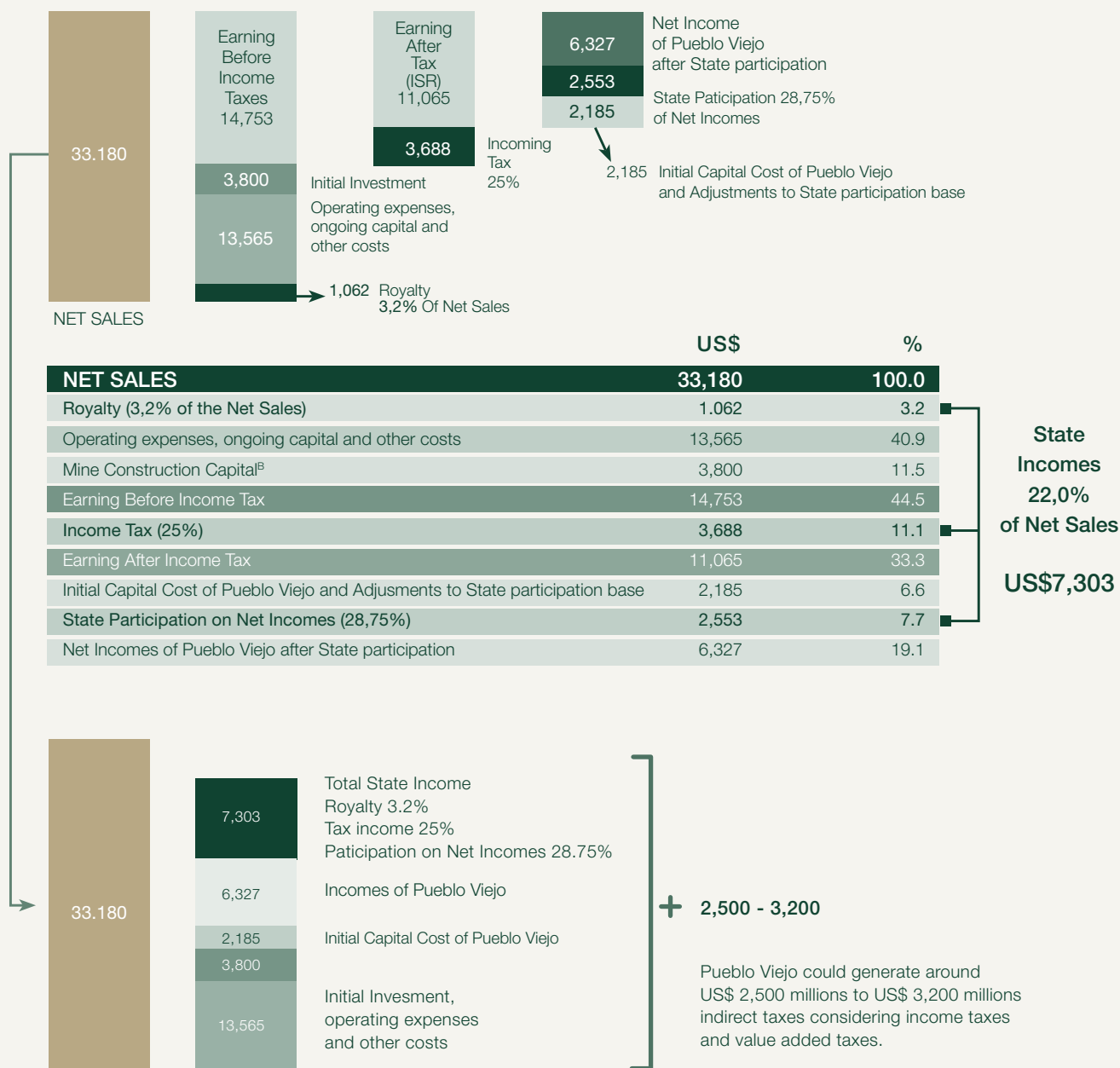
The following sections discuss how this project impacts other aspects of national economic life and include trade and export, investments, Gross Domestic Product, tax collection, employment and the multiplier effect on the economy.

The final section includes an analysis of the potential effects on human development and poverty reduction in the area of influence.

5. This is reference figure of operational cost, ongoing capital and other costs, total and not represents a "cash cost" determined according to established mining convention or formal accounting methods.

6. According to the CEAM agreement, this tax is referred to as Participación sobre las Utilidades Netas (PUN).

**FIGURE 14**  
**PUEBLO VIEJO’S GLOBAL ECONOMIC EFFECTS**  
**ACCUMULATED US\$ MILLIONS (WITHOUT DISCOUNT RATE) <sup>A</sup>**



**A.** CSRSM calculated to values. Presented here using only public information available from the company. The initial capital cost of Pueblo Viejo was estimated considering the accumulated effect during investment period.

**B.** Reflects 100% of estimated mine construction capital. Estimated range is from US\$ 3,600m to US\$ 3,800m.

**Assumptions:**  
Total production: 23.7 million oz  
Price of Gold average value: US\$ 1.400 per ounce  
Total operating expenses, ongoing capital and other cost was estimated using a reference total cost of US \$450 per ounces according with different sources of information.  
Total Sales considered net assuming discounted fees for transportation and refining. All values are accumulated without discount rate and are expressed in current US dollars.



# EFFECTS ON GROSS DOMESTIC PRODUCT

Pueblo Viejo's potential effect on the country's Gross Domestic Product (GDP) is significant. The expected value added to the economy for the first 10 years of the project is estimated at between 2.4% to 2.9% of GDP or US\$ 1,232m per year including direct and indirect effects.

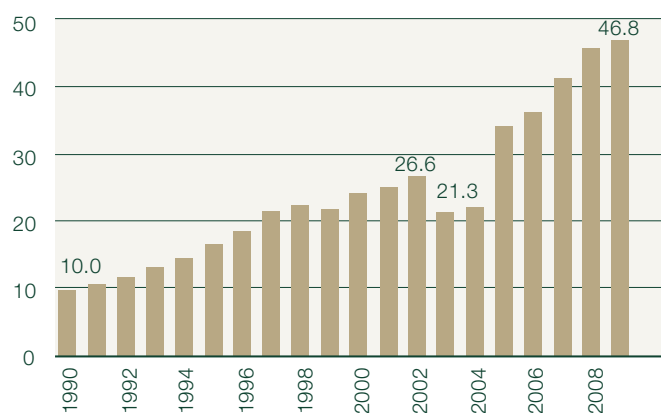
The estimated direct value added component is US\$ 812m per year and the indirect value added component of the project is estimated to be US\$ 420m. These estimates assume that total costs, sale prices and overall economic growth of the country remain stable for the next 10 years.

Considering that the Dominican Republic's GDP has risen steadily (except for the years 2003 and 2004) from US\$ 10 billion in 1990 to US\$ 46.8 billion in 2009, one important effect of Pueblo Viejo could be its contribution to economic stability in terms of strengthening the economy and reducing the risk of sharp falls in GDP.

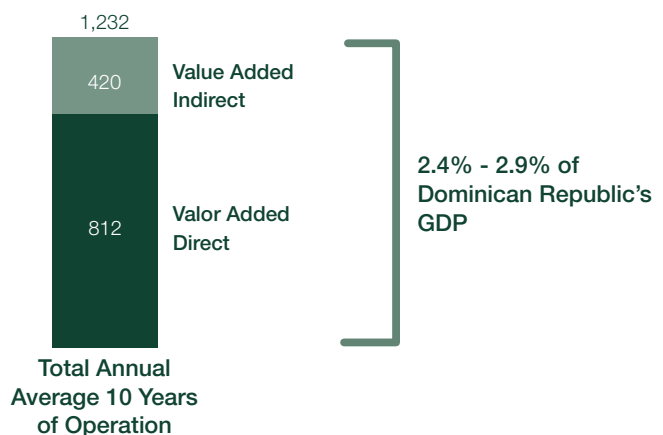
Pueblo Viejo's direct added value may be understood as the difference between the net sales and the direct production cost of material and services. However a better interpretation is that the value added represents the capacity to generate the wealth of the society and the future possibilities of social progress. This is because the difference between the net sales and the direct production cost of material and services include labour expenses (i.e. wages, salaries, and benefits), taxes and operating profit.<sup>7</sup>

Pueblo Viejo's indirect added value is generated by the productive linkages with other economic activities in Dominican Republic.

**FIGURE 15**  
GDP OF THE DOMINICAN REPUBLIC  
CURRENT US\$ BILLION <sup>A</sup>



**FIGURE 16**  
VALUE ADDED GENERATED BY PUEBLO VIEJO  
ANNUAL AVERAGE ESTIMATED FOR THE FIRST  
10 YEARS OF OPERATION <sup>B</sup>  
CURRENT US\$ MILLION



**A.** Central Bank of Dominican Republic

**B.** Estimated by CSRM for the first 10 years of productive operations. The calculation on GDP does not take into account the initial investment

effects. The indirect impact added value was estimated, considering different assumptions of the input-output matrix of the Dominican Republic, Barrick Gold financial reports 2008 and 2009, and the Input-Output matrix of Chile and Perú (mining sector).

7. In economics, wealth does not have a clear or unique interpretation and the concept is a permanent source the debate among economists. In popular usage, wealth can be described as an abundance of economic value, or the state of controlling or possessing such items, usually in the form of money, real estate or personal property. For this research wealth is defined as a measure of the capacity to improve social conditions.

# EFFECTS ON EXPORTS

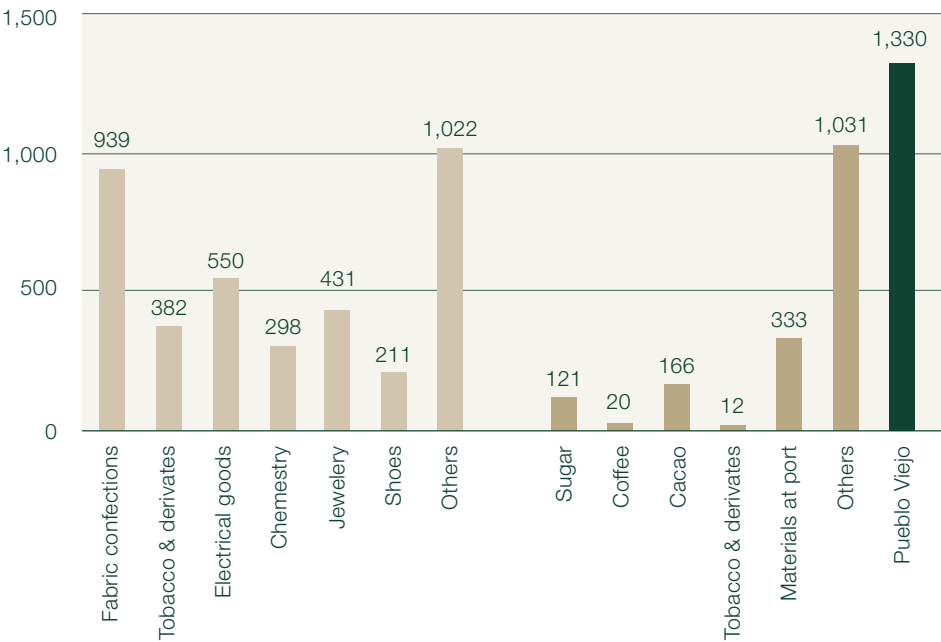
The export sectors and international trade are important elements of the Dominican Republic economy. The export sector represents around 11%-12% of the nation’s GDP and is a permanent source of income and employment across the country. It operates under two main schemes: traditional zones and tax free or tax concessional “Special Free Zones” (SFZs). SFZs are designed to promote export oriented enterprises in non-traditional products<sup>8</sup>.

The Dominican Republic hosts 57 SFZs. In 2009 the value of exports from companies operating in SFZs was US\$ 3,833m which represents 69.5% of total Dominican exports (US\$ 5,520m). The remaining US \$1,683m constitutes exports from the agricultural sector such as sugar, coffee, cocoa, tobacco and other sectors (Figure 18).

Pueblo Viejo will greatly increase overall exports once the project is in operation. An estimate of the likely impact can be calculated by dividing total commodity sales over the life of the mine. The resulting US\$ 1.330m per year will become the single largest value of exports not originating from a SFZ or other export sector (Figure 17).

If the projected level of sales of US\$ 1.330m continues for the next 10 years, Pueblo Viejo’s contribution to total Dominican Republic’s exports will be 15%, while the percentage of exports originating from SFZs and other sector will drop from 31.5% to 26% and from 69.5% to 59% in the same period (Figure 18).

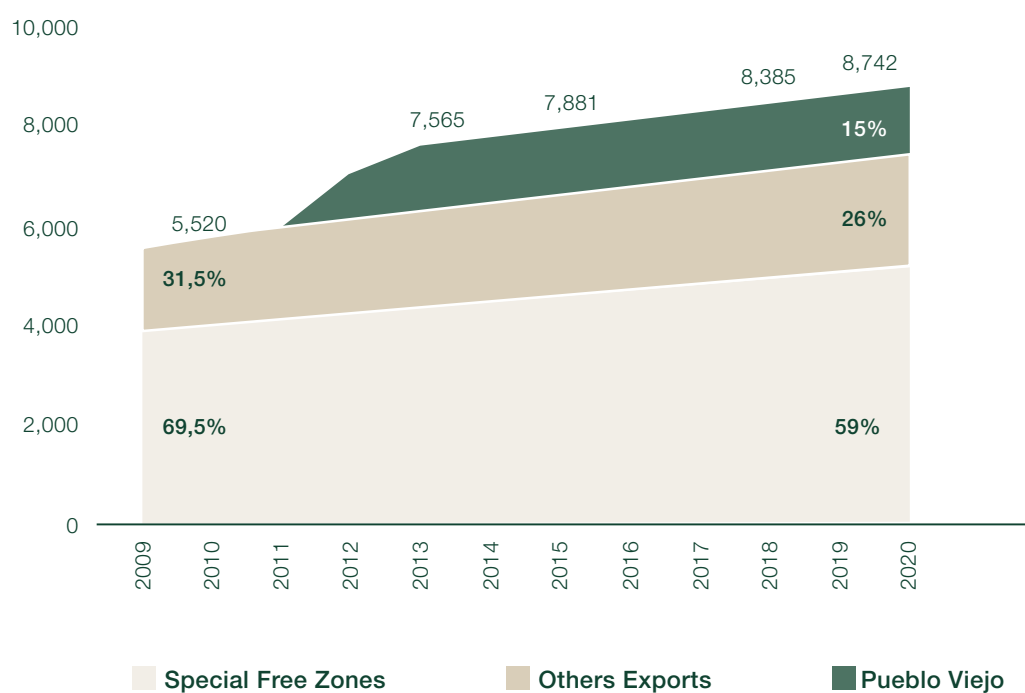
**FIGURE 17**  
DOMINICAN REPUBLIC EXPORTS IN 2009 COMPARED TO PUEBLO VIEJO’S EXPECTED EXPORTS.  
ANNUAL AVERAGE ESTIMATED FOR THE FIRST 10 YEARS OF OPERATIONS <sup>A</sup>  
CURRENT US\$ MILLION



A. Central Bank of Dominican Republic

8. The National Council of Special Free Zones (Consejo Nacional de Zonas Francas de Exportacion) defines SFZs as “as a geographic area of the country, subject to special customs and tax controls established by law. The law allows the installation of companies to sell their production or services to foreign markets and provides incentives needed to foster their development. The area is duly demarcated by fences or barriers, so that entry and exit of persons, vehicles and cargo, is controlled by personnel of the Directorate General of Customs”. Consejo Nacional de Zonas Francas de Exportación.

**FIGURE 18**  
DOMINICAN REPUBLIC EXPORT PROJECTIONS 2009-2020  
AND PUEBLO VIEJO EFFECT  
(CURRENT US\$ MILLION) <sup>B</sup>



	2009	2009 %	2020	Average % 2015–2020
Special Free Zones	3,833	69.5 %	5,120	59 %
Sugar	121	2.2 %	166	2 %
Coffee	20	0.4 %	32	0.4 %
Cocoa	166	3 %	218	2.6 %
Tobacco	12	0.2 %	19	0.2 %
Products sold at port	333	6 %	448	5.1 %
Other productos	1,031	18.7 %	1,408	16 %
Pueblo Viejo	0	0 %	1,330	15 %
TOTAL	5,520	100 %	8,742	100 %

**B.** Estimated by CSRМ

## EFFECTS ON THE GEOGRAPHICAL DISTRIBUTION OF PRODUCING AREAS

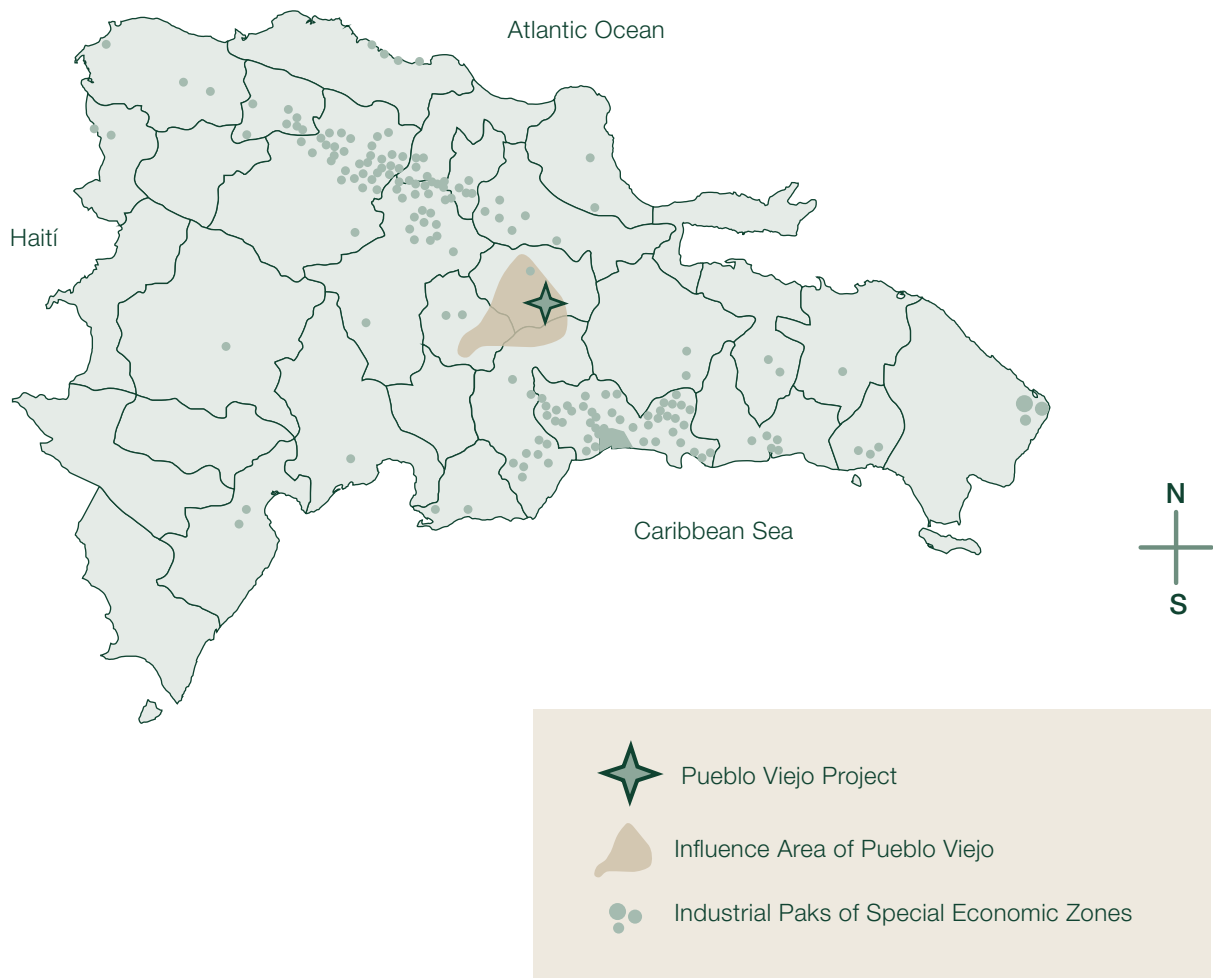
SFZs are not evenly distributed throughout the country but can be found around two main regions. The first group is located in and around the capital city, Santo Domingo. Tied to this group are a few more SFZs along the east and west of Santo Domingo along the southern coast of the country.

The other group is located in the northern part of the country around the city of Santiago and spreads northwest toward the border with Haiti and southeast following the main highway from Santiago to Santo Domingo.

Apart from agriculture, the area surrounding Pueblo Viejo has only 2 SFZs and little other export oriented economic activity. These SFZs are home to 5 companies that employ a total of 2,500 people. The average annual salary of people employed by these companies is US\$ 3,000.

In this scenario, the Pueblo Viejo operations will have two important potential effects. The first is the creation of a new productive source of development in an area that has a low export base. The second potential effect is the creation of new employment opportunities. Both effects, could improve the geographical distribution of economic development throughout the country.

**FIGURE 19**  
**SPECIAL FREE ZONES CURRENTLY OPERATING IN 2009**  
**AND PUEBLO VIEJO'S AREA OF INFLUENCE <sup>A</sup>**



SPECIAL ECONOMIC ZONES		INFLUENCE AREA OF PUEBLO VIEJO	%
INDUSTRIAL PAKS	47	2	4.25
EXPORTS US\$ M	3,883	3-4	0.1
Nº COMPANIES	553	5	0.9
EMPLOYMENT	112,618	2,400	2.1
SALARY ANNUAL US\$	3,689	3,000 (COTUÍ)	81.3
SALARY WEEK US\$	112	91	81.3

**A.** Central Bank of Dominican Republic

# EFFECTS ON INVESTMENT

Pueblo Viejo's initial investment of US\$ 3,800m will have a noticeable impact on Dominican Republic investment climate by improving its stability and in turn foster more investor confidence. The investment allocated to the 4-year construction phase (2009-2012), represents around 6 to 7 percent of the country's GDP.

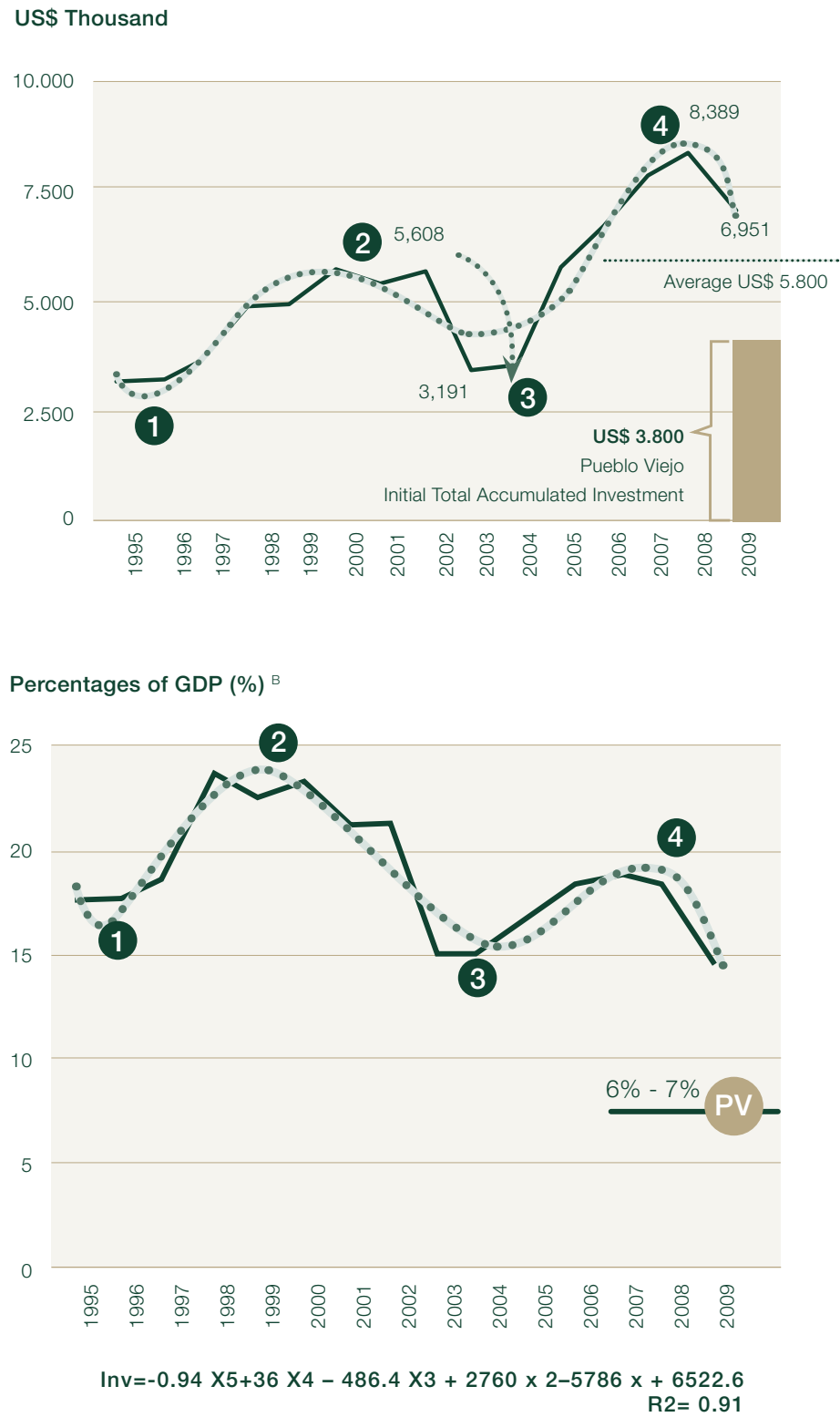
As with other economies in Latin America, Dominican Republic's investment levels fluctuate considerably from year to year with higher and lower cycles (see Figure 20).

In 1995, for example, Dominican investment was just over US\$ 2,500 million per year (point 1 in Figure 20). Then it rose to over US\$ 5,000 million per year in the period 1999-2002 (point 2 in Figure 20), but in 2002 it fell drastically to around US\$ 3,100 million (point 3 in Figure 20). From this new relatively low point, investment increased to US\$ 8,389 million (point 4 in Figure 20) to then fall to US\$ 6,951 billion in 2009.

To put these figures in perspective, we examine investment as a proportion of GDP. In 1995 investment equalled 17 to 18 percent of GDP which climbed to around 24 percent in the period 1998 to 2000. Investment then slowly declined and reached a low of 15 percent of GDP in 2003. From then it slowly climbed to 18 percent of GDP in 2007 (see points 1 to 4 in the right hand side in the Figure 20).

Under these conditions of permanent fluctuations in the levels of investment in the Dominican Republic, it can be expected that Pueblo Viejo's investments could generate a stabilizing effect due to the investments and the message delivered to the market and other potential investors.

**FIGURE 20**  
INVESTMENT IN DOMINICAN REPUBLIC AND PUEBLO VIEJO'S EFFECT  
FLUCTUATION IN THE LAST 15 YEARS  
CURRENT US\$ MILLION & PERCENTAGE OF GDP <sup>A</sup>



**A.** Central Bank of Dominican Republic.

**B.** Central Bank of Dominican Republic.

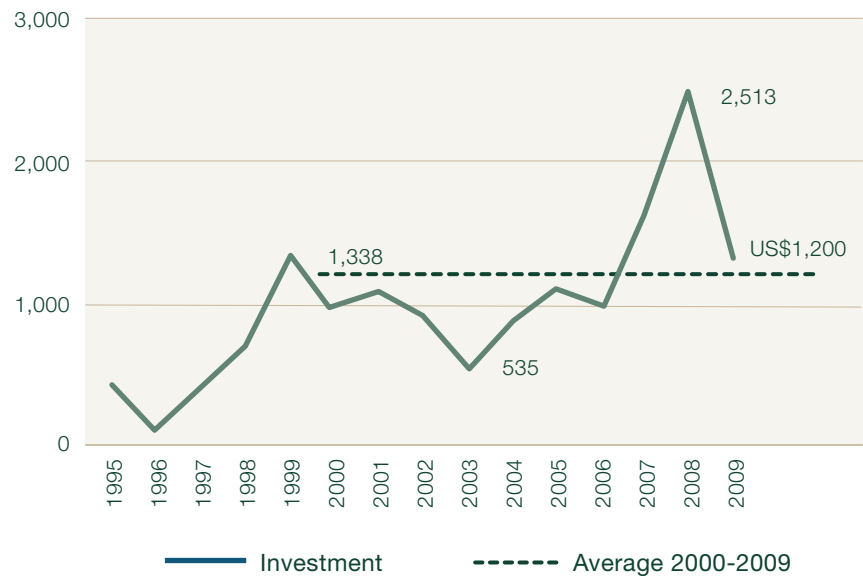
In the past 15 years, fluctuations in the levels of foreign direct investment (FDI) in the Dominican Republic have also been part of the economic scenario.

In the period 1995-1997, foreign direct investment was relatively low (not exceeding US\$ 500 million per year). Since 1997 FDI increased steadily, reaching a peak of US\$ 1,338 in 1999. During the following years, FDI declined to a low of US\$ 500 million in 2003. Finally, from 2004 to 2008, the level of investment recovered. Just before the global financial crisis in 2009, investment reached US\$ 2,513 million (Figure 21). The annual average level of FDI between 2000 and 2009 was approximately US\$ 1,200 million.

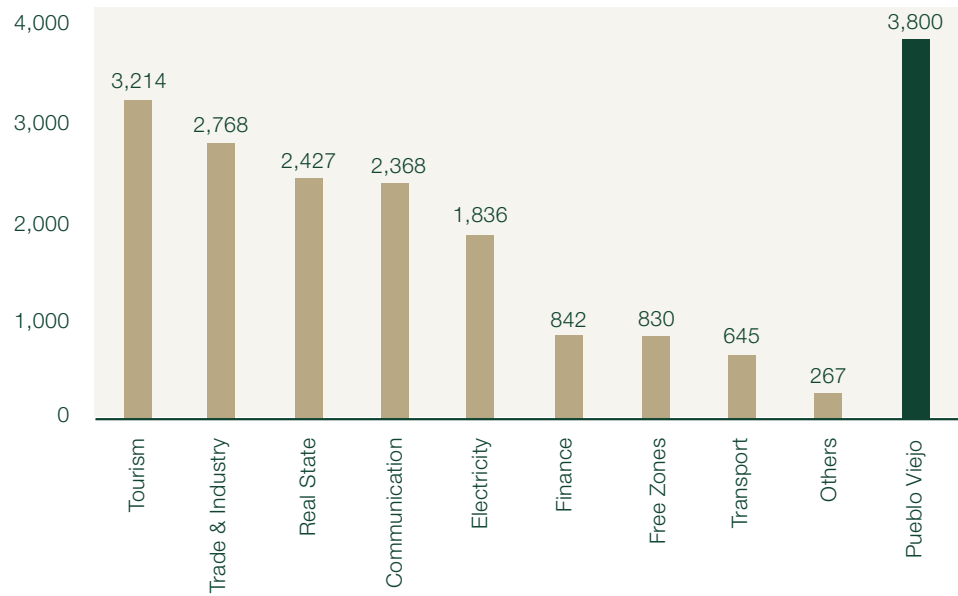
The accumulated FDI for industry type for the period 1995-2009, was led by the tourism industry with US\$ 3,214 million. In second place was the trade and industrial sector with US\$ 2,768 million. In terms of Pueblo Viejo's impact, from this information it can be concluded that its investment (US\$ 3.800 million) will be the largest foreign direct investment in the country.



**FIGURE 21**  
FOREIGN DIRECT INVESTMENT IN DOMINICAN REPUBLIC  
CURRENT US\$ MILLION <sup>A</sup>



**FIGURE 22**  
ACCUMULATED FOREIGN DIRECT INVESTMENT IN DOMINICAN REPUBLIC 1995-2009 <sup>A</sup>  
CURRENT US\$ MILLION



**A.** Central Bank of Dominican Republic.

# TAX EFFECTS

One of the most important aspects to analyze, in the context of foreign investment and large scale mining projects, is the potential effects of the tax paid by companies on state incomes.

This is true considering that future payments or disbursements may have a significant effect on state revenues, but also because the “tax” is the result of an explicit agreement between the State and the mining companies, and therefore, represents materialization of wills, intentions and future expectations of those who signed the agreement.

For this reason, when a long term contract is negotiated, the proposed tax level or structure should represent an appropriate balance between the expectations of the states (representing stakeholders) and companies.

Under this premise, the main objective of this section is to illustrate the potential effects of Pueblo Viejo project in state revenues, understand the types of taxes considered, and its potential effect on national and local level.

**This section will analyze four aspects in relation to the tax effect of Pueblo Viejo:**

- a) Tax structure of the Pueblo Viejo project
- b) Estimated direct and indirect tax effects
- c) Tax effects at the national level
- d) Tax effects at the local level

## TAX STRUCTURE

The Mining Rights Special Lease Agreement (CEAM), signed between the Dominican State, the Central Bank and Pueblo Viejo Dominicana Corporation, represents the main source of analysis used in this research to understand the tax effects of the project.

The tax structure of the project is based on four main complementary components: i) royalty, ii) income tax, iii) state participation in net profits and iv) local tax distribution.

### Royalty: 3.2% of net sales

The first axis of the tax structure established in the SLA is the establishment of a 3.2% royalty of net sales of Pueblo Viejo.

In general, the establishment of a royalty is supported by two important arguments. The first argument is that the royalty is considered a “right” and not exactly a tax, and although it is difficult to make a conceptual difference between both terms, this is based on the characteristics of non-renewable nature of the mineral resource<sup>9</sup>.

A second argument is that the royalties (in this case 3.2%) are applied as a fixed percentage (or fixed amount) of net sales and do not depend on profit margins which are a function of product’ cost or sale price. Thus, the royalty ensures a minimum income for the state in case the metal prices are very low or the cost of production rises.

In this sense, the state will continue to receive this payment even in the hypothetical case that the company does not generate earnings from the exploitation of resources.<sup>10</sup>

### Income Tax of 25%

The SLA has considered a payment of income tax of 25%. This is the same profit tax applied to all companies operating in the Dominican Republic.

This implicitly involves an important principle of non discrimination (for or against) in comparison with other economic sectors.

### State participation in net profits 28.75%

This project-specific tax of 28.75% which takes into account the mine’s economics is applied to company earnings after income tax once the invested capital has been recovered and an internal rate of return of 10% has been reached. In practice this tax transforms the Dominican State into a “strategic partner” of the Pueblo Viejo project (or vice versa) by increasing its effective participation in the project’s cash flows.

The advantage of this arrangement for the Dominican State is that the State benefits from the profits under a higher commodity price environment, but does not harm the economics of the project under a lower commodity price environment while ensuring that the investor obtains an adequate return on their investment.

Direct taxes (i.e. combination of royalty, income tax and state participation) will not fully commence being paid in the earlier part of the mine life due to the production profile of the mine, the tax legislation of the Dominican State and prevailing economic environment. So in the earlier years of the mine life the direct tax payments are expected to be less than the average.

9. The first royalty in Latin America was the Quinto Real (royal fifth). This tax was a tribute paid to the king equal to one fifth (20%) when someone captured, or discovered a treasure. In particular the expression Quinto Real refers to a tax of 20% established in 1504 by the Crown of Castile on the extraction of precious metals (mainly gold and silver) within the territories of Spanish America. This ensured a fifth of the income was paid to the Spanish crown regardless of the profitability of mining production, which was generally based on the exploitation of Indian slaves. Góngora del Campo, M. (1963). *Los hombres ricos de Santiago y de La Serena a través de las cuentas del Quinto Real (1567-1577)*, Revista Chilena de Historia y Geografía.

10. In Chile, for example, a country with a long mining tradition, royalties have been only incorporated in the tax structure of mining companies since 2008.

### Local tax distribution 5%

The SLA has included clauses that indicate the need to distribute 5% of state income to local municipalities. The purpose of this policy of local distribution of the tax benefits of mining, could become a significant social policy tool if properly focused.<sup>11</sup>

### Direct and Indirect Tax effects

The direct taxation originating from Pueblo Viejo is estimated at about US\$ 7,303m. This figure is equivalent to 22.0% of estimated project sales of US \$33,180m (at current prices).

In addition, using assumptions based on the multiplier effects of the Input, Output matrix of Dominican Republic, the research has estimated that the project could generate an indirect tax effect of about US\$ 2,500m to US\$ 3,200m (including income tax and value added taxes) throughout the mine life cycle (See Figure 23 and 24).

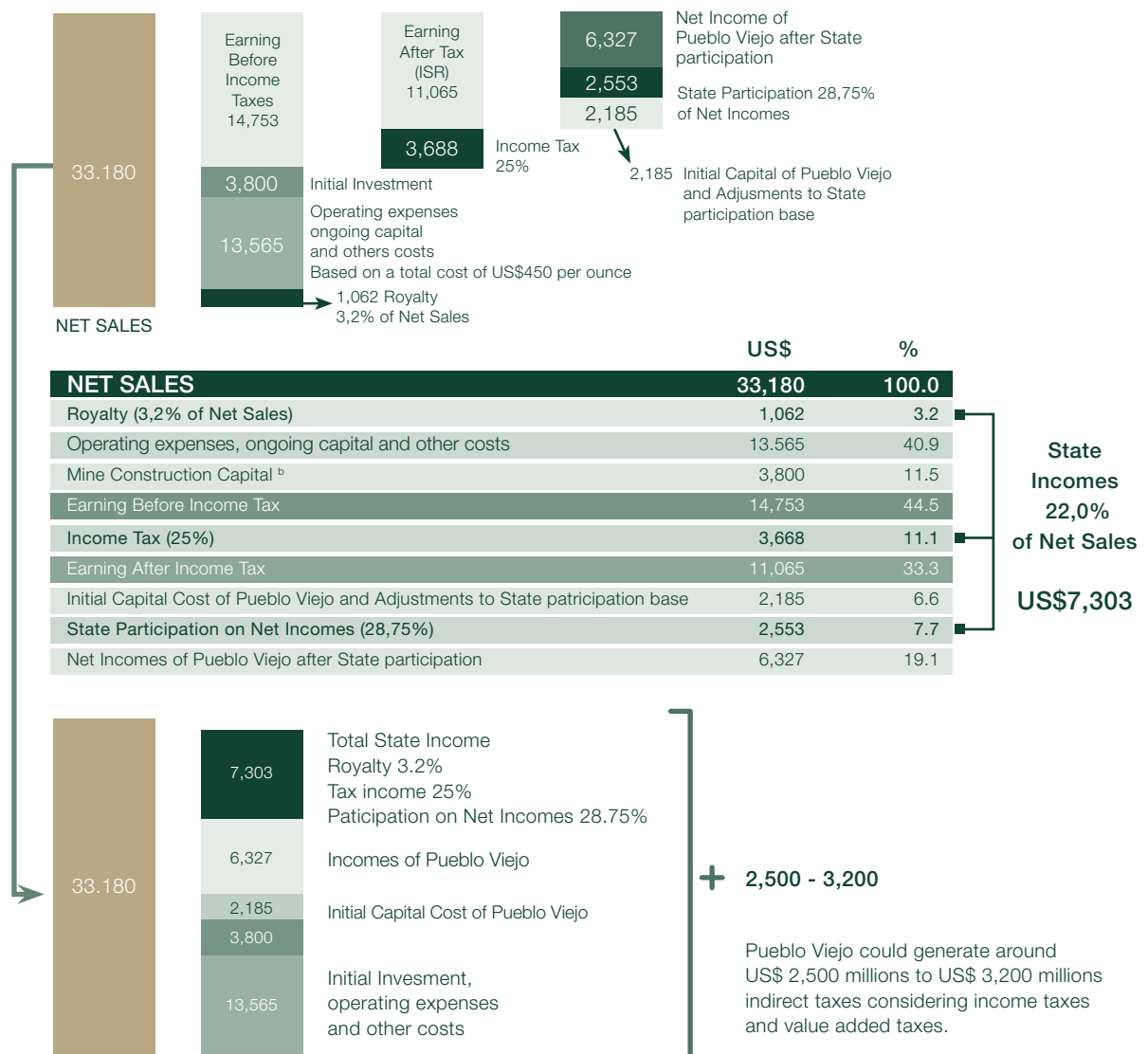
The indirect tax effects are produced considering that the operating cost and salaries paid by Pueblo Viejo, will generate new income in other sectors (for example in trade, industry, transport services, among others) and then those sectors will need to pay for their own costs and taxes.

Following the same mechanism, the taxes paid by Pueblo Viejo will be converted into state income, and then into state expenditures into different sectors (public salaries, investment and purchases). These sectors will require paying their costs and taxes as well.

Taking account of all of these components, the total effect of Pueblo Viejo considering direct and indirect effects will be around US\$ 9,803m: US\$ 7,303m by direct taxes and US\$ 2,500m by indirect effects.

11. In this discussion, it is interesting to follow the experiences of the mining areas of Peru and Chile. On the one hand, Peru's tax structure has a mining royalty if it means a direct transfer of resources to the project areas. In contrast, Chile has no significant taxes (except for mining patents) related to mining that have a direct allocation to the project area. Both cases (Peru and Chile) represent different successful experiences in terms of social development of mining areas.

**FIGURE 23**  
**TAX EFFECT OF PUEBLO VIEJO PROJECT <sup>A</sup>**  
 CURRENT US\$ MILLION



**A.** CSRM calculated to values. Presented here using only public information available from the company. The initial capital cost of Pueblo Viejo was estimated considering the accumulated effect during investment period.

**B.** Reflects 100% of estimated mine construction capital. Estimated range is from US\$ 3,600m to US\$ 3,800m.

**Assumptions:**

Total production: 23.7 million oz

Price of Gold average value: US\$ 1,400 per ounce

Total operating expenses, ongoing capital and other cost was estimated using a reference total cost of US \$450 per ounces according with different sources of information.

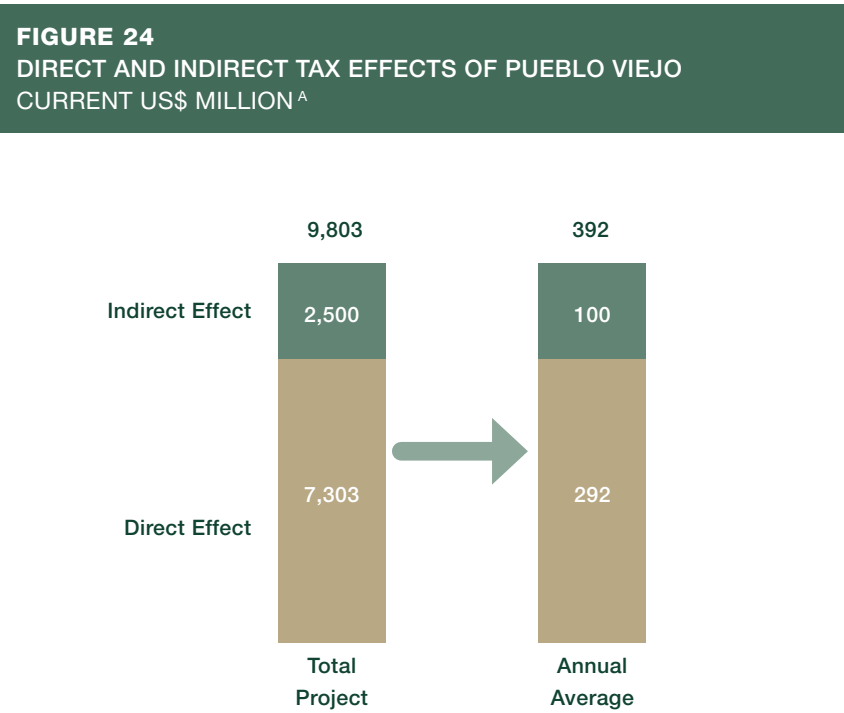
Total Sales considered net assuming discounted fees for transportation and refining. All values are accumulated without discount rate and are expressed in current US dollars.

TAX EFFECTS AT THE NATIONAL LEVEL

The Pueblo Viejo project could be significant in terms of its impact on state incomes at the national level.

Firstly, the total contribution of Pueblo Viejo to the Dominican State, considering direct and indirect effects, estimated at about US\$ 9,803 (through the 25 years of mine life), could be approximately 1.4 times the annual national tax collection (Figure 25) (considering the average tax collection for the period 2007-2010).

Secondly, considering that the Dominican State collects about US\$ 7,280m per year (2007-2010 average), Pueblo Viejo’s tax effect estimated at US\$ 392m per year (US\$ 292m in direct taxes and US\$ 100m in indirect taxes) (see Figure 24), could represent around 5.0% of Dominican Republic’s annual tax revenue<sup>12</sup>. The annual direct impact of \$292 million alone could represent between 0.6% and 0.7% of the Dominican Republic’s GDP.<sup>13</sup>



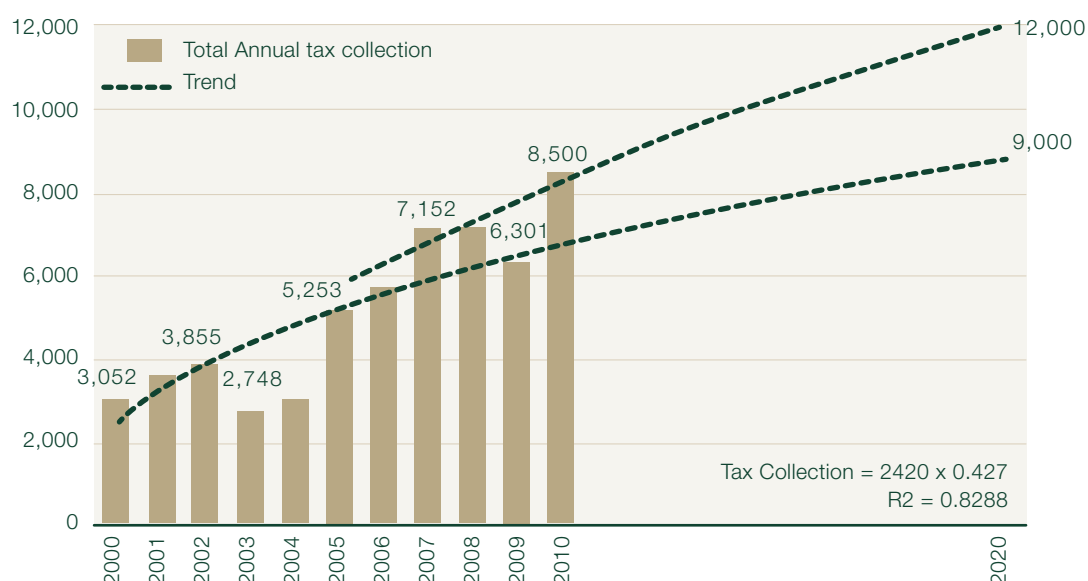
A. Projection of tax collection by 2020 was estimated by CSR. All values are accumulated without discount rate and are expressed in current dollars of United States.

12. All values are accumulated without discount rate and are expressed in current US dollars.

13. Harvard University has estimated (study commissioned by the Ministry of Finance of the Dominican Republic) that the tax effect of Pueblo Viejo will be in the range 0.2% and 0.5% of GDP.

**FIGURE 25**  
**TAX COLLECTION IN DOMINICAN REPUBLIC**  
**PROJECTIONS 2010–2020 & ANNUAL AVERAGE 2007-2010**  
 CURRENT US\$ MILLION <sup>A, B</sup>

**Tax Collection and Projection**



**ANNUAL AVERAGE 2007-2010 / NATIONAL TAX COLLECTION**  
 CURRENT US\$ MILLION AND PERCENTAGES <sup>B</sup>

	US\$ M	%
<b>Value Added Tax</b>	<b>4,368</b>	<b>60%</b>
<b>Tax Incomes</b>	<b>1,820</b>	<b>25%</b>
Companies	728	10%
Personal	546	7.5%
Others	546	7.5%
<b>Other Taxes</b>	<b>1,019</b>	<b>15%</b>
<b>ANNUAL AVERAGE 2007-2010</b>	<b>7,280</b>	<b>100%</b>

**A.** Projection of tax collection by 2020 was estimated by CSRM. All values are accumulated without discount rate and are expressed in current dollars of United States.

**B.** Based on Dirección General de Impuestos Internos de República Dominicana.

## TAX EFFECT AT LOCAL LEVEL

At the local level, the impact of Pueblo Viejo can be analyzed from two perspectives. The first is in terms of its effects on the origin (geographic zones) of tax collections in Dominican Republic. The second is in relation to the local distribution of state income given that the Dominican State has determined that 5 percent of state income generated by the project will be locally distributed.

At present, 92 percent of the Dominican State income originates from the National District (where Santo Domingo is located). The remaining zones and regions contribute only 8%, around US\$ 500m per year (Figure 26), to Dominican State income.

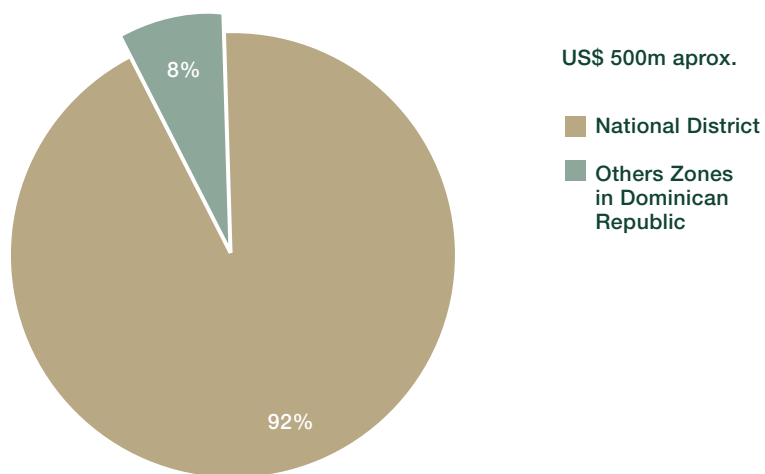
If Pueblo Viejo's direct tax effect is approximately US\$ 292m per year, the effect in terms of origin of tax collection will be significant because it will increase the taxes collected from areas outside the National District.

This is clearly illustrated by analyzing the tax contribution of Pueblo Viejo's direct area of influence (Monseñor Nouel and Sánchez Ramírez), two districts that have traditionally been low contributors to the national coffers. In 2009 for example, taxes collected at Monseñor Nouel and Sánchez Ramírez districts totalled US\$ 5.8m and US\$ 0.4m respectively which is less than 1% of the total taxes collected by the Dominican State (Figure 27).

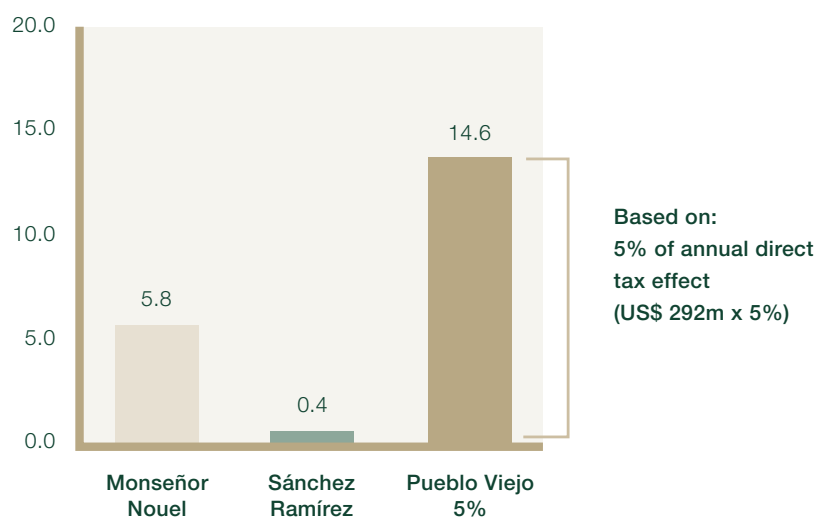
Secondly, in relation to the local distribution of state income, the effect of Pueblo Viejo on local government incomes is estimated to be US\$14.6m per annum, (5% of US\$ 292m of direct taxes, see Figure 27) which undoubtedly will affect the structuring, scope and objectives of local government programs.



**FIGURE 26**  
TAX COLLECTION BY ZONES IN DOMINICAN REPUBLIC 2009  
DISTRIBUTION (%) <sup>A</sup>



**FIGURE 27**  
TAX COLLECTION BY ZONES IN DOMINICAN REPUBLIC 2009 COMPARED  
WITH 5% OF PUEBLO VIEJO DIRECT TAXES  
DISTRIBUTION (%) <sup>B</sup>



A. Based on Dirección General de Impuestos Internos de República Dominicana.

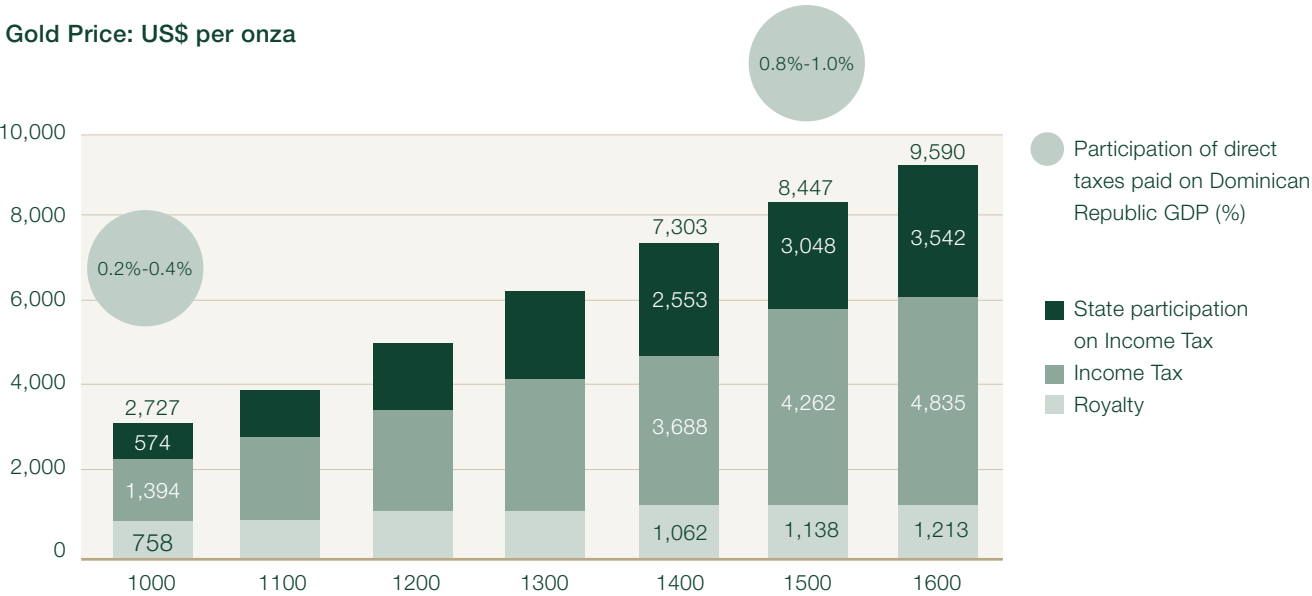
B. Based on Dirección General de Impuestos Internos de República Dominicana.

# STATE INCOME SCENARIOS

An analysis of state income scenarios, derived from different gold price scenarios, shows that state income, including royalties (3,2%), tax incomes (25,0%) and state participation on net incomes (28,75%), could be in excess of US\$ 9,5 billion (accumulated value without discount rate) based on an average Gold price of US\$ 1,600 per ounce. If the price is maintained at the US\$ 1,000 per ounce mark, state income would be approximately US\$ 2.7 billion. Therefore, according to these figures, the Pueblo Viejo's tax impact could increase its contribution to GDP to 0.8%-1.0% (Figure 28).

From the Dominican State's point of view, this situation has several positive implications related to the planning and stability of state income since it increases the certainty of future income available for public investment and expenditure, despite adverse price scenarios.

**FIGURE 28**  
STATE INCOMES BY SCENARIOS  
TOTAL INCOMES AND PERCENTAGE OF DOMINICAN REPUBLIC GDP <sup>A</sup>  
CURRENT US\$ MILLION



A. Estimated by CSRSM based on Barrick Gold information.

# PRODUCTIVE LINKAGES

Pueblo Viejo’s operational requirements have the potential to develop a number of productive linkages with the rest of the Dominican Republic’s national and local economy.

Total operational expenses, ongoing capital and other cost are estimated at US \$540m per annum for the first 10 years. Approximately US\$ 310m, about 50% to 60% of total operational costs, have the potential to be materialized within the domestic market. This takes into consideration around US\$ 280m in goods and services related to the operation per annum, and about US\$ 30m in costs associated with wages, salaries and compensation for Pueblo Viejo’s direct employees.

No doubt this represents a major challenge for the company and for the local market in terms of economic linkages, partnerships, technology transfer opportunities and increased knowledge and local capacity needed to meet project requirements.

**FIGURE 29**  
OPERATING COSTS AND OTHER EXPENDITURE OF PUEBLO VIEJO  
ANNUAL AVERAGE FIRST 10 YEARS OF OPERATION <sup>A</sup>  
CURRENT US\$ MILLION



A. Estimated by CSRM based on Barrick Gold information.

**BOX 7****PRODUCTIVE LINKAGES IN MINING**

Large scale mining activity generates substantial productive linkages with other economic sectors. The mining sector buys goods and services needed to carry out operational activities and investment. Then, following the multiplier effect of the economy, the mining's suppliers demand other products and services from the other sectors of the economy.

Of course, these multiple business relationships between mining and other economic activities generally occur in all economic sectors. However, certain characteristics of the mining sector make their production chains particularly positive for economic growth. To take advantage of these opportunities requires a great deal of effort and investment in local level procurement.

Based on CSRSM studies of other mining communities in Latin America and around the world, there are four notable features in relation to the productive linkages originated in the mining sector.

**Long term and stable demand**

Large-scale mining is a long-term activity with fixed operating costs in the short term, which means the demand for goods and services is more stable and permanent. This allows other economic activities to plan for a longer investment scenario. Thus, assets can be amortized over periods more loosely, expenditure on training may be made profitable, and businesses can plan with greater certainty and with the benefit of innovations and technological improvements.

**Higher and more competitive contracts**

In general, the prices of contracts in the mining sector are higher but also more demanding in terms of operational standards compared to other industries. This requires suppliers to work with more efficient and competitive profit margins. This leads to an important positive externality, as a competitive supplier in the mining industry is likely to have very good performance in other industries.

**Increasing technological demands**

Suppliers of goods and services in the mining sector must constantly innovate, meet new technological demands, improve processes and productivity, and quickly incorporate changes.

**Requirements in terms of social responsibility and sustainability**

Suppliers of goods and services are "encouraged" to improve their production processes, from the standpoint of business practices, and responsibility with their interest group. This has the potential to improve the overall performance.

# EMPLOYMENT EFFECTS

Pueblo Viejo will generate new direct and indirect employment and will also be linked to existing local economy jobs. Direct employment comprises people with a direct work contract with the company. The long term estimate is for a local workforce of around 1,000 employees.

The indirect employment generated and linked with the project is based on the multiplier effect of local purchases and salaries of direct employees. In other words, this is employment generated and linked through local expenditure. For example, when the company enters into a safety service contract with another company, an important part of this expenditure is transformed into local salaries, and then those salaries will be transformed into new expenditure and in new salaries again.

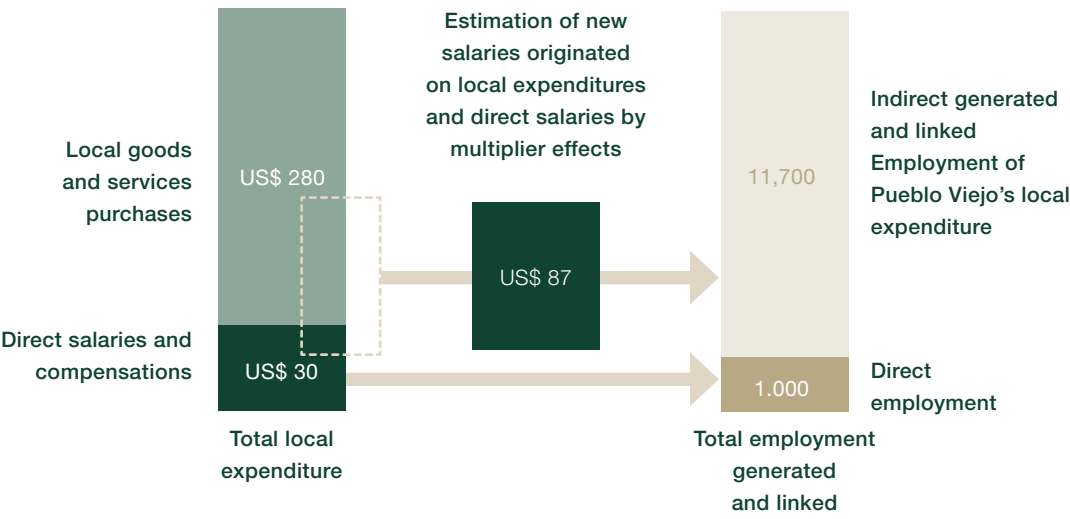
Furthermore, it is necessary to understand that there are two types of indirect employment: new employment and linked. Indirect new employment occurs when part of the new salaries generate new jobs. Indirect linked employment occurs when part of the new salaries link to existing jobs.

Following the process of multiplier effects on the economy, the research estimates, based on local expenditure, direct salaries, and the coefficient of input-output matrix for Dominican Republic, that Pueblo Viejo will generate around US\$ 87m in new salaries annually.

Starting from this figure, and considering an average income of US\$ 7,731<sup>14</sup> per year in the Dominican Republic, indirect and linked employment could reach 11,700 people (See Figure 30).

14. U.S. \$ 5.154 is based on: RD \$ 82 = average hourly rate industry, April 2010, ONE.

**FIGURE 30**  
**EMPLOYMENT EFFECTS OF PUEBLO VIEJO**  
**AVERAGE FIRST 10 YEARS OF OPERATION <sup>A</sup>**



A. Estimated by CSRSM based on Central Bank and Oficina Nacional de Estadísticas from Dominican Republic. To estimate the multiplier effect on salaries and compensation the following formula was used:  $\$87 = 280 \times 20\% + 280 \times 50\% \times 20\% + 30 \times 20\% + 30 \times 50\% \times 20\%$ . Values used 20% and 50% took into consideration the input-output matrix of the Dominican Republic.

The following formula was used to calculate the number of employees involved indirectly:  $11,700 = \text{US\$ } 87,000,000 / \text{US\$ } 7,731$  (Average annual salary of Dominican Republic increased by 50%).  $\text{US\$ } 7,731 = \text{Salary per hour (RD\$ } 82.91) \times \text{Hours worked per week (41.44 hours)} \times \text{Weeks worked per year (54 week)} \times 1.5 / \text{Exchange rate (US\$ } 36 \times \text{RD\$ } 1)$ .

**FIGURE 31**  
**COTUÍ, SÁNCHEZ RAMÍREZ**



This photo was taken in the town of Cotuí, Sánchez Ramírez, 2010.

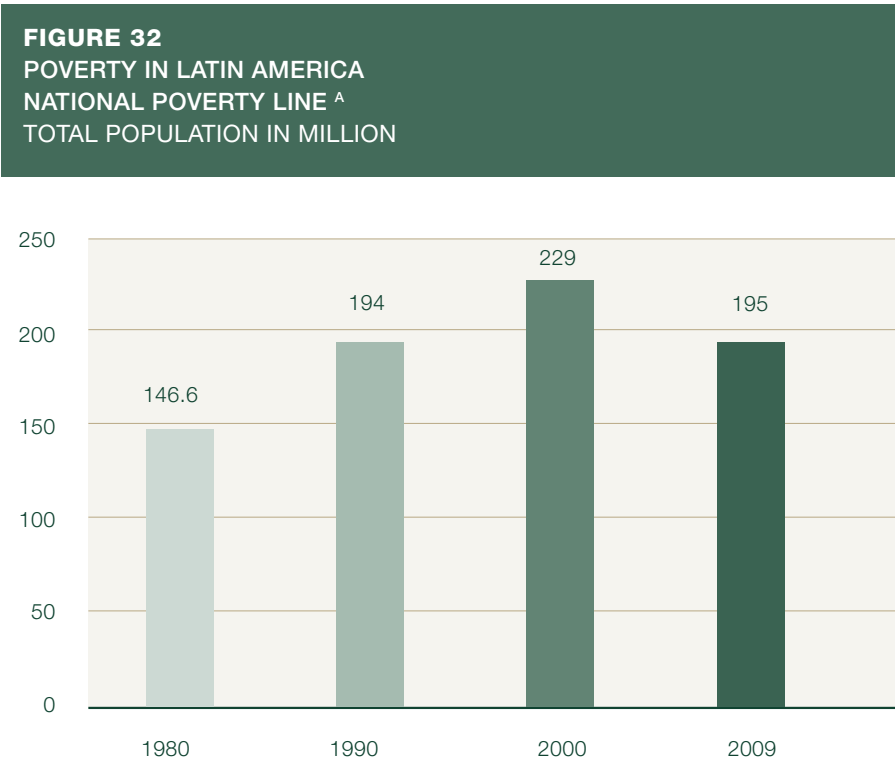
# EFFECTS ON HUMAN DEVELOPMENT

Human development and social conditions are one of the most important concerns for society, especially in developing countries and territories where poverty is an ongoing problem.

In Latin America the population living under conditions of poverty is estimated to be 195 million (ECLAC 2010). This figure is lower than earlier years of this decade; however it remains equivalent to the unacceptable level of the 1990s (Figure 32). Of course, the analysis and causes of poverty and social conditions are complex, historic and multidimensional, with different factors affecting each country and culture.

Under these conditions it is important to ask the question: what will happen in terms of the social condition in the area of influence of Pueblo Viejo? Or in simple terms: what will be Pueblo Viejo's effect on poverty reduction?

This section will present some indicators relevant to social conditions; it will then attempt to predict the potential effects of Pueblo Viejo on these social conditions.



**BOX 8****ANALYSIS OF SOCIAL CONDITIONS & POVERTY**

It is very important to understand that socioeconomic indicators related to poverty always show us a partial view of reality and we should not forget that behind these indicators are people, families and social groups. The traditional definition of poverty considered those who lack incomes or access to basic needs such as clean and fresh water, nutrition, health care, education, clothing and shelter to meet basic human needs. However, in order to gain a greater insight about poverty, factors such as capabilities, skills, opportunities, space of civic freedom, and a relative view of the income distribution within the community should also be considered.

In this context it is important to keep two aspects in mind. Firstly, the socioeconomic conditions must be understood under the perspective of human development and a comprehensive view of the quality of life. Secondly, that poverty not only affects people who are living under these conditions but the whole society.

Two common indicators used to analyze social conditions are the poverty line (or national poverty line) and income distribution (20/20 indicator). The poverty line or poverty threshold ascertains the number of people whose income level is insufficient to meet the country's minimum standards of living. This methodology, used by the Dominican Republic, follows that of the ECLAC (who are ECLAC?). The line consists of two elements: a basic food basket and an amount to cover expenditure for essential non-food items. The basic food basket is made up of items that meet the recommended minimum calorie requirements set by FAO for an average population determined by age, sex and physical activity level of individuals. The basket is in line with preferences of the population and the pricing structure in place. The result can be expressed in terms of cost per calorie or in terms of a specific basket of goods, the cost of which may be adjusted periodically according to changes in the prices of those goods.

On the other hand, the income distribution based on the 20/20 indicator provides information about the relationships between the incomes of different groups, in this case quintiles.

These indicators, the poverty line and 20/20, are widely used around the world by international agencies, national governments, academics and policy makers because they are simple to use and construct and provide a starting point for the analysis and reflections of the social condition prevalent within a country. However, recent research provides a deeper view of poverty using a multidimensional analysis. On the ground, this research is driven by academic institutions and the state (e.g. Oxford University's and United Nations' Human Development Index, The Strategic Plan 2030 of Dominican Republic, Ecuador's Plan del Buen Vivir among others) and include absolute characteristics (such as income per capita), and access to services that are not counted as income but increase welfare. This is because the absence of access to public or collective services such as safe drinking water, sanitation facilities, health, education and information, amongst others, greatly impact on a person or a household's chances of being out of poverty.



## DIAGNOSIS IN AREA OF INFLUENCE

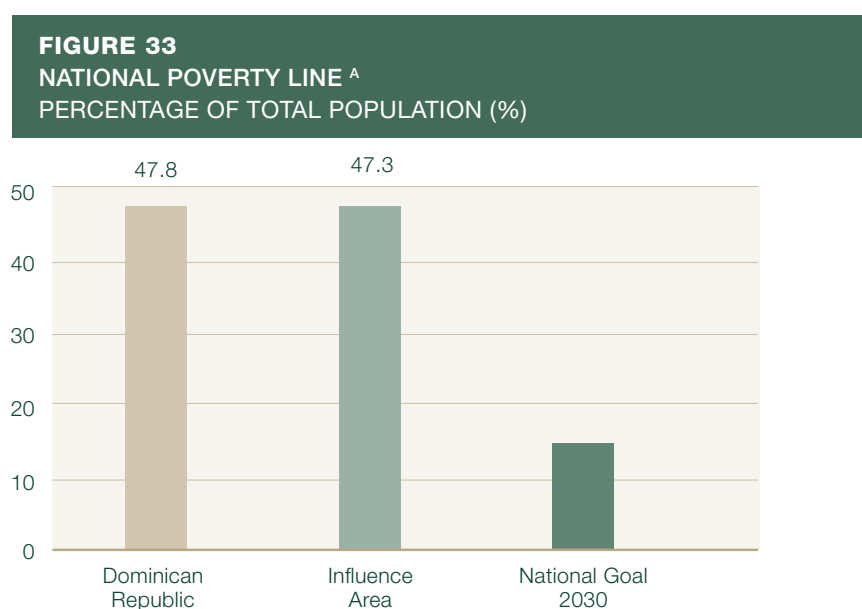
In general, the socioeconomic conditions in the area of influence (in this case the area of influence are the provinces Sánchez Ramírez and Monseñor Nuel) are very similar to nation-wide socioeconomic conditions, which are characterized by structural poverty with close to half of the total population of the Dominican Republic living below the poverty line (Figure 33).

Pueblo Viejo's area of influence is not much better with 47% of the population living under the poverty line. The percentages of people living in extreme poverty in Dominican Republic and Pueblo Viejo's area of influence are 19.5% and 21.1% respectively (Figure 34).

In terms of income distribution, the poorest quintile of Dominican Republic earns 3.8% of total national income, while the area around Pueblo Viejo earns 4.3% of national income (Figure 34).

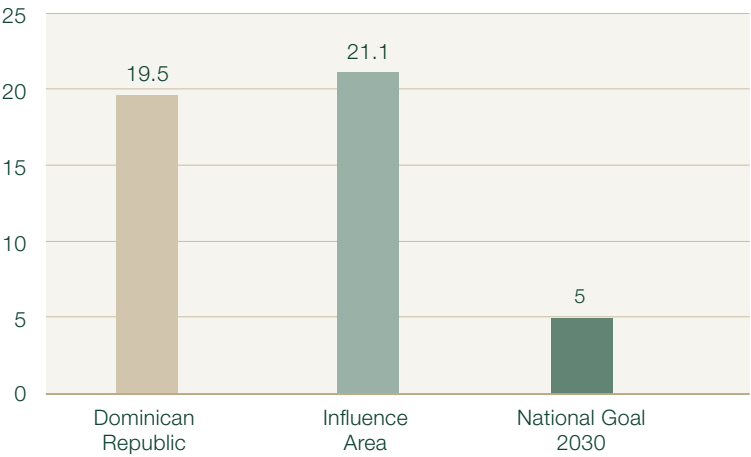
These indicators are a reflection of the probable situation across the country in general and in the area of influence of the project in particular with regards to education, health, household earnings, public services and productivity.

This social diagnosis, among others, has been extensively recognized by the National Strategy of Development of Dominican Republic 2010-2030<sup>15</sup> which includes a national level analysis, specific line of development, and global and specific objectives and goals.

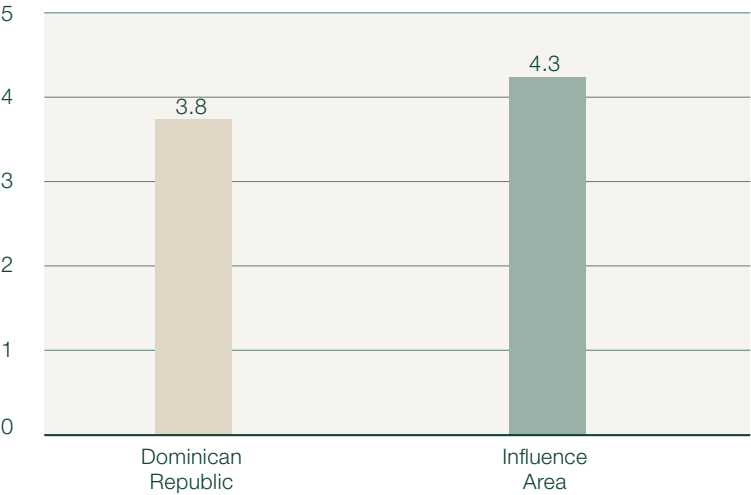


15. More information about the social and economic diagnosis derived from the National Strategy of Development of Dominican Republic 2010-2030 is available on the Dominican Republic Ministry of Economy and Planning official web site <http://www.end.gov.do/> (Ministerio de Economía y Planificación de República Dominicana).

**FIGURE 34**  
NATIONAL EXTREME POVERTY LINE <sup>A</sup>  
PERCENTAGE OF TOTAL POPULATION (%)



**FIGURE 35**  
INCOME DISTRIBUTION  
SHARE OF POOREST QUINTILE IN TOTAL INCOMES <sup>A</sup>  
PERCENTAGE (%)



**BOX 9****DOMINICAN REPUBLIC NATIONAL DEVELOPMENT STRATEGY**

“The Minister of Economy, Planning and Development and the National Council for State Reform of Dominican Republic, in compliance with the Public Investment Planning Law (Law 498-06) and the commitment of the public during the Summit of National Unity to Confront the World Economic Crisis, presented to national public opinion the proposed National Development Strategy 2010-2030.”

“Law 498-06 presents the conclusion of a development strategy as a planning tool that “will define the target of the country’s long-term commitments assumed by the main branches of government and the political, economic and social entities of the country, taking into account their social, economic and political viability. To do this, the law identifies priority problems to be solved, the main lines of action necessary for resolution and sequence of implementation. The law also states that this will be the result from a process of negotiation and must be approved by an act of Congress.”

Promoting a Development Strategy with a 20-year vision requires the unity of all nationals to support its implementation. Therefore the conclusion is indispensable: all Dominicans have to agree on what as a country we want to achieve by 2030, what are the main obstacles to those achievements and, consequently, what are the most appropriate courses of action to remove these obstacles and achieve a better country.

**Vision of National Development Strategy:**  
**Chapter II. National Long Term Vision**  
**Article 5.**

“The Dominican Republic is a prosperous country where people live in dignity, adhere to ethical values, live within the framework of participatory democracy that guarantees the rule of law and social democracy and promotes equity, social justice and a more egalitarian society, which manages and power resources in innovative ways to develop sustainable and socially integrated and inserted in the competitive global economy”

Taken from the text The Dominican Republic  
 National Development Strategy

**The Dominican Republic National Development Strategy is a significant step in terms of social and economic policies. It provides a long term view, challenging goals and a comprehensive view of human development.**

# POTENTIAL EFFECTS OF PUEBLO VIEJO ON SOCIAL CONDITIONS

Pueblo Viejo has the potential to generate significant positive social effects in the area of influence of the project. However, according to previous research carried out in mining zones<sup>16</sup>, these positive effects will firstly depend on the interaction and synergy among the various stakeholders and the company. Secondly, it will depend on the social baseline of the area of influence of the project.

On one hand, in terms of interaction and synergy among the various stakeholders and the company, the positive effects on social conditions will occur through three different and complementary processes:

- i) Through economic linkages and employment,
- ii) By the effects of the policies of corporate and social responsibility,
- iii) Through the effective use of State and local government incomes originated from the mining taxes.

On the other hand, the positive effects of the project will also be related to the baseline of social conditions in the area of influence. If the baseline of the area of influence shows a high level of social capital, the benefits accrued from mining opportunities will probably be greater because it will be easier for stakeholders to obtain benefits from new opportunities. However, if the social capital is low, it is probable that the expected benefits and the materialization of positive effects derived from the mining operation will be slower to materialize and sometimes absent if society does not implement the appropriate policies.

Following this reasoning, the economic linkage and the effects of employment (direct, indirect and related) will produce a flow of opportunities for the people (workers, local supplier and entrepreneurs). However, it is likely that the first opportunities will be taken by people with higher relative social and human capital and who are willing to change jobs (for better economic and labor conditions). When this occurs, they will be replaced by other skilled workers thus generating a virtuous cycle of new employment opportunities in response to growing demand.

16. Experience in terms of the others research developed by CSRSM in different mining zones in developing countries.

Unfortunately, this cycle is not generated at all social levels and therefore another important question needs to be asked: How many people living under conditions of poverty or social conditions of lower social and human capital, within the mine's area of influence, can benefit from the mining activities and from the indirect and related employment?

Whether or not this is a specific or direct concern of the mining companies, it has become part of an increasingly controversial discussion, especially considering that the company has a state agreement and will pay taxes<sup>17</sup>.

A potential answer to this question is that the likelihood of improving social conditions for groups with less social and human capital will be increased by the implementation of appropriate corporate social responsibility policies and effective use of state and local government incomes (from the mining taxes).

In the area of Pueblo Viejo's influence approximately 60,000 people live under conditions of poverty (47.3% of the population). This means that around 15,000 people are unemployed or are working under unsatisfactory labor conditions in terms of salaries or social security, or are working in unsafe or unhygienic conditions. Therefore, is it possible that the construction and operation of Pueblo Viejo can improve the social conditions of these people? The answer is that it is possible, but only if the project is supported by ambitious policies of corporate social responsibility and effective actions from the State and local government in terms of efficiency of public policies.

In general, it appears that positive progress is being made. The corporate social responsibility policies of the mine and the actions implemented by State and local government are operating with long term vision and in a cooperative environment with a common view of the existing social conditions.

17. This research is not discussing people who were resettled or affected directly in operational terms. Its focus is the people who remain in the immediate area of influence.

# THE POTENTIAL EFFECTS BASED ON STATE INCOMES

In order to understand the potential effect of Pueblo Viejo on social conditions in the area of influence, a good starting point arises from the comparative analysis between the annual resources required for lifting people from poverty and the company's tax effect in the area of influence<sup>18</sup>.

Figure 36 shows that the direct annual tax effect of Pueblo Viejo (US\$ 292m) could be enough to eradicate the poverty and extreme poverty in the area of influence considering that the state estimation<sup>19</sup> of monetary resources needed for this purpose is around US\$ 189m. This assumes direct transfers to this single objective as conceptualized by the Dominican State.

This analysis serves to illustrate the potential effects on Pueblo Viejo if all taxes are directed at the area of influence. However, in reality, the Dominican State will use its income as part its national policy and the income will therefore be spread over the whole country.

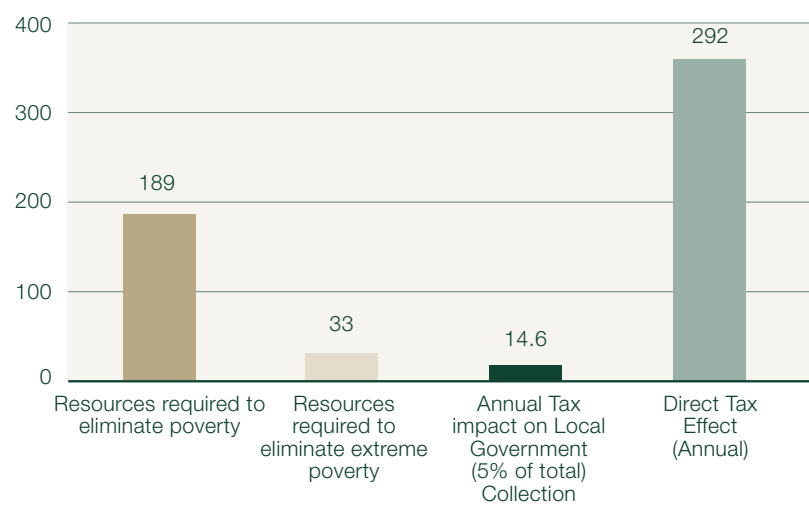
However, it is still estimated that local government will receive approximately US\$ 14.6m per year (5% of taxes are to be allocated to local government in accordance with the CEAM). This could mean that a significant part of the resources needed to eradicate extreme poverty (around 45%) will be available (Figure 36).

On the other hand, if the total taxes paid by Pueblo Viejo were allocated entirely to the area of influence the contribution per capita could be approximately US\$ 915. This is 2.5 times the Dominican's state public expenditure of US\$ 373 per capita (Figure 37).

18. In this case the area of influence include Sánchez Ramírez and Monseñor Nouel

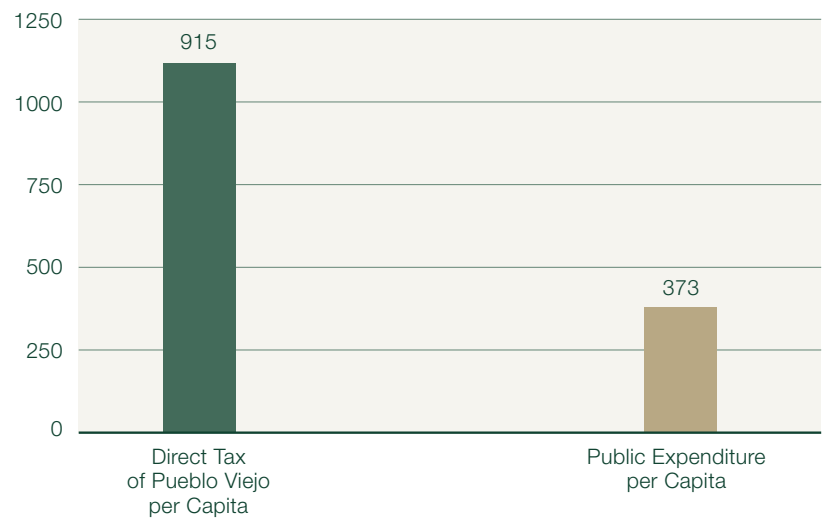
19. Based on the "Sistema de Indicadores de la República Dominicana", Ministerio de Economía, Planificación y Desarrollo (version 2.1.)

**FIGURE 36**  
COMPARATIVE ANALYSIS:  
TAX EFFECT AND POVERTY REDUCTION  
ANNUAL TAX EFFECT OF PUEBLO VIEJO (NATIONAL AND LOCAL) COMPARED WITH ANNUAL RESOURCES  
REQUIRED TO ERADICATE THE POVERTY AND EXTREME POVERTY IN THE AREA OF INFLUENCE <sup>A</sup>  
CURRENT US\$ MILLION



A. MEPYD.

**FIGURE 37**  
TAX EFFECT & STATE EXPENDITURE PER CAPITA  
ANNUAL TAX EFFECT PER CAPITA OF PUEBLO VIEJO AND STATE EXPENDITURE PER CAPITA  
IN DOMINICAN REPUBLIC<sup>A</sup>  
CURRENT US\$



A. MEPYD.

**BOX 10**

**RESOURCES REQUIRED TO ELIMINATE POVERTY**

This is an estimation of the total monetary resources required annually to eliminate poverty and extreme poverty, assuming direct transfers that are entirely focused on reducing poverty.

This is an interesting “socioeconomic exercise” undertaken by the state of Dominican Republic that shows in some sense a measure of the gap or the social effort that needs to be bridged to reduce poverty.



# KEY FACTORS FOR A POSITIVE IMPACT OF PUEBLO VIEJO

SOCIAL AND ECONOMIC ISSUES AND WHY INSIST  
ON HUMAN DEVELOPMENT?

KEY FACTORS & RECOMMENDATIONS

# SOCIAL AND ECONOMIC ISSUES, WHY INSIST ON HUMAN DEVELOPMENT?

Whereas this research has presented from a general perspective, the social and economic effects that the Pueblo Viejo mining project can potentially have on the society of the Dominican Republic, it is necessary to emphasize the importance of the effects on human development, social capital, and focus attention on the effects on people and their communities.

This final section presents some key recommendations that can potentially maximise the positive impacts of the project so that exploitation of the natural resources can be effectively transformed into social capital and an improved level of human development of Dominican society.

However, the controversies surrounding the social effects of the extractive industries are internationally recognized. In parallel to the positive socioeconomic effects described in the document, social and economic issues arise in the area of influence in mining zones which will directly and indirectly affect people in unexpected ways in their day to day life.

Some common issues (or unsatisfactory situations) are: unexpected rise in the local crime rates, unplanned increment in the demand for productive factors (including employment), inflation in local prices of goods and services that affect non-mining related sectors, accelerated local demographic growth, significant increases in demand for public services and infrastructure (schools, hospitals, road and transport, among others), and sadly, an increase in feeling of discontent by people who cannot access the positive socioeconomic effects generated by mining.

Some causes of these issues are in relation to the growing expectations of the people (issues related to the demand and the market), however some of them are in direct relation to the initial low base line in terms of social capital in the area of influence.

Nevertheless, experience accumulated through research across different mining zones indicates that the Pueblo Viejo project can be seen as a social opportunity capable of providing a positive context to improve the wellbeing and the human development of the host communities through economic effects, employment, productive linkages, taxes, and the positive view of the development.

However, to achieve these outcomes, society, including the state and local government, institutions, communities, people, the company and all other interest groups, must assume a common view beyond their own concerns to take advantage of this new opportunity.

From the perspective of the company, if Pueblo Viejo is to have a positive impact on human development, it is likely that this will improve its international and local reputation as a good corporate citizen. From the perspective of Dominican society, beyond the importance of achieving the direct benefits of a better level of human development, Dominican society is likely to achieve greater economic and political stability, and a positive social multiplier of the socioeconomic expectations.

With regards to this challenge, the following exercise and key recommendations represent some initial steps towards identifying the most important key factors for achieving social and human development.

It is highly recommended that Dominican society, the company, the State and the interest groups construct their own framework to help drive the delivery of positive outcomes of Pueblo Viejo's area of influence and the wider Dominican society.

# KEY FACTORS & RECOMMENDATIONS

This research identified seven key factors and recommendations that will enhance the probability of Pueblo Viejo producing positive impacts and which will help ensure that the natural resources will be transformed effectively into social capital and a better level of human development in the Dominican society.

**BOX 11**

**KEY FACTORS FOR A POSITIVE IMPACT  
OF PUEBLO VIEJO**

- 1. Positive Synergies
- 2. Territorial View and Inclusive Development
- 3. Transparency and Public Information
- 4. Strengthening the Public Sector
- 5. Local Strategy of Productive Linkages
- 6. Social Monitoring with Specific Targets
- 7. Special Focus on Vulnerable Groups

**FACTOR 1: Positive Synergies**

The first factor is to create a positive synergy for future relations between the interested parties, in terms of collaboration, participation and working with an optimistic perspective. This is a very simple proposal, however one of the most difficult to achieve. In the Pueblo Viejo context this means working together to produce an overall result not obtainable by any of the interested groups alone.

An environment of positive synergy could support the decision making processes, the relationship between local and state governments and the day to day interactions between the companies, their workers and communities. In this sense a positive environment will create more favorable conditions for economic expectations and human development.

**FACTOR 2: Territorial View and Inclusive Development**

The second key factor is to promote a territorial and inclusive view of the development. That means to develop an understanding of economic and social progress using a participatory and integrated perspective that reinforces social inclusiveness and encourages participation by all sectors of society, especially from within the area of influence.

The scale of mining operations, in terms of local expenditure, contracted services, use of technology, the value of the contracts, and economic and social indirect effects, allows and promotes a wide range of business and human relations. These relationships can be integrated and inclusive, and work in collaboration so that all parties benefit. In this sense, it is absolutely necessary to recognize the importance of all sectors, from a small rural store to the major suppliers of mining machinery. Every part of society needs to be incorporated into this vision by integrating their principles, capabilities and resources.

Of course this is not an easy task, given the current social exclusion of various groups in society and the prevalence of structures that do not permit an inclusive process of development. However, the efforts in terms of collaborations, tripartite or multipartite association, horizontal and vertical business and working together with a long term view will be key to achieving territorial and inclusive development.

### **FACTOR 3: Transparency and Public Information**

The third key factor is transparency and public information. In terms of business, contracts, agreements, public expenditure derived from local taxes, the process of employer registration, community agreements, and all other interactions, maintaining transparency is essential for promoting human development and for maximizing the potential for Pueblo Viejo to produce positive effects.

Less information and transparency means less certainty for development. When the processes of development are not transparent, interested groups and society as a whole, can never be sure whether positive social effects of the project will ever eventuate. In this case, both parties lose: the company loses credibility and society loses opportunities. Additionally, it will not be possible for society to evaluate (e.g. after 10 years of operation) the real effects of the project on human development and its relationship, for example, with Pueblo Viejo's taxes.

Fortunately, today corporate and government standards are set at a high level to maintain transparency. However, it is important to ensure that these standards are adhered to and improved.

### **FACTOR 4: Strengthening the Public Sector**

The public sector will play an essential role in the process of development, particularly in the area of influence of Pueblo Viejo.

The State's role in the strengthening of the public sector is crucial. This encompasses internal capabilities and its traditional exercising of political powers, functions and duties under the country's constitution and laws, and its policy orientation in terms of the social demands, goals, priorities in building social capital, measuring and monitoring impact and implementing real social improvement programs.

### **FACTOR 5: Local Strategy of Productive Linkages**

A specific local strategy of productive linkage is necessary to increase economic opportunities for the local area. Productive linkages may be understood as a system where organizations, people, technology, activities, information and resources are involved in moving a product or service from supplier to customer, transforming natural resources, raw materials and components into a finished product that is delivered to the end customer.

The productive linkage is a system of opportunities. The best way to leverage these opportunities is for the interested parts to improve their strategies and skills to meet the challenge in terms of management, planning, new standards of operations, coordination and collaboration with channel partners, other suppliers, intermediaries, and third-party service providers among others. This requires a comprehensive strategy on the part of the company and good coordination with local and national government and other economic actors.

### **FACTOR 6: Social Monitoring and Specific Targets**

Following the National Strategy of Development and other initiatives such as the Millennium Development Goals, it is strongly recommended that a participative framework of social monitoring be undertaken and include specific indicators and targets. This framework will provide information about the current social situation, and allow for better targeting of resources, strategies and objectives.

In the future this can support and complement efforts of social investment and help orient public expenditure and corporate community programs.

Building this social framework is a hard task that will need synergy between the public sector, the company, stakeholders and the general Dominican Society.

### **FACTOR 7: Special Focus on Vulnerable Groups**

With regard to Key Factor 6, it is essential to focus special attention on the social situation of vulnerable groups, with the understanding that their conditions respond to different factors and historical situations. If society does not support these groups through inclusive development, the opportunities to improve their conditions will remain very low.

If, after 20 or 25 year of the mine cycle, the social conditions in the area of influence show no improvement, Government, communities, and companies will continue in a debate about “the benefits of mining” and an opportunity will be lost to not only improve the lives of citizens of the Dominican Republic but also the credibility of the resource sector.

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