

Environmental Security in the Dominican Republic: Promise or Peril?



A Pilot Case Study
Foundation for Environmental Security and Sustainability
Executive Summary
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The **Foundation for Environmental Security and Sustainability (FESS)** is a public policy foundation established to advance knowledge and provide practical solutions for key environmental security concerns around the world. FESS combines empirical analysis with field research to produce policy-relevant reports and recommendations that address environmental conditions that pose risks to national, regional, and global security and stability.

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Cover photo: Rio Ozama, Santo Domingo
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EXECUTIVE SUMMARY

I. Introduction: FESS and Its Approach to Environmental Security

This is the report of a study on environmental security in the Dominican Republic conducted by the Foundation for Environmental Security and Sustainability (FESS) during the second half of 2004. FESS is a public policy foundation that works to advance knowledge and provide practical solutions for environmental concerns that pose risks to national, regional, and global security. With the support of Congress, and through a grant from the U.S. Agency for International Development (USAID), FESS has developed a standardized research methodology, the Environmental Security Assessment Framework (ESAF). The ESAF is a tool of analysis that yields policy recommendations that address environmental problems that have actual or potential implications for security.

At the request of USAID, FESS has undertaken a series of pilot studies in three nations. The first pilot study focused on Nepal and was completed in the spring of 2004. The findings of the second case study, on the Dominican Republic, are the subject of the present report. The third study, on Uganda, will be completed in early summer 2005.

In each case, the environmental security assessment has proceeded on two levels—both as a field test of the ESAF methodology and as a focused country study aimed at producing specific policy recommendations for decision-makers and stakeholders.

FESS employs the following working definitions of environmental security and environmental insecurity:

- *Environmental security* is a condition in which a nation or region, through sound governance, capable management, and sustainable utilization of its natural resources and environment, takes effective steps toward creating social, economic, and political stability and ensuring the welfare of its population.
- *Environmental insecurity* is a condition in which a nation or region fails to effectively govern, manage, and utilize its natural resources and environment, causing social, economic, or political instability that leads over time to heightened tensions, social turmoil, or conflict.

II. Relevance of the Dominican Republic to U.S. Interests and Security

The United States and the Dominican Republic (DR) are linked in a complex and continuing web of historical, geographic, economic, political, and human ties. This tight interdependence means that events in the Dominican Republic have security consequences for the United States in such areas as diplomacy, trade, legal and illegal migration, drug trafficking, and remittances.

- With a population of 8.8 million and an area of 18,000 square miles, the Dominican Republic is the second largest country in the Caribbean (after Cuba). A two-hour flight from the U.S. mainland and only a few miles from the shores of Puerto Rico, the Dominican Republic is a key part of America's "third border." As such, the DR has the potential for becoming an ideal transshipment point for drugs, weapons, unauthorized immigrants, and other illicit activities should the country become unstable.
- Presidential Determination No. 2003-38 placed both the DR and Haiti on the "Majors List" of drug transit or illicit drug-producing countries. Many people interviewed for this

report, both in and out of government, indicated that the penetration of drug trafficking into the Dominican military, government, and other institutions, as well as the increase in drug-related violence, are troubling trends for national security and stability.

- Haitian exiles in the Dominican Republic have often been a source of tensions in bilateral relations and a source of instability for Haiti. Several hundred thousand Haitians live in the Dominican Republic (some observers estimate the number as high as one million), a figure that includes many undocumented immigrants.
- The illegal movement of persons from the Dominican Republic to the United States, especially to Puerto Rico, is a significant and growing problem. In FY 2004, of 10,899 Coast Guard interdictions, almost half (5,014) involved Dominicans, followed by Haitians (3,229), and Cubans (1,225).
- The United States is the Dominican Republic's main trading partner, with bilateral trade of \$9 billion. Twice as many Americans visited the Dominican Republic in 2004 as visitors from any other nation. In 2004, out of a total of 2.866 million visitors, 931,246 were Americans. The United States is also the leading investor in the Dominican Republic. U.S. companies have major investments in Dominican free trade zone (FTZ) operations, which constitute one of the three main pillars of the Dominican economy, along with tourism and immigrant remittances.
- The Dominican Republic is a strong political ally of the United States and supports U.S. efforts to stem the drug trade and transnational crime. In August 2003, the Dominican Republic dispatched 302 troops to Iraq, where they served until May 2004.
- In the last 20 years, more immigrants from the Dominican Republic have been admitted to the United States than from any country in the hemisphere except Mexico, and Dominicans were the fastest-growing Latino group in the United States during the 1990s. Remittances sent by Dominicans in the United States (over \$2 billion in 2003) support hundreds of thousands of households, provide financing for businesses, and account for 25 percent of the country's foreign exchange.

III. Methodology

The Environmental Security Assessment Framework identifies risks to nations and regions that arise as a result of the interactions of environmental conditions with political, economic, and societal factors, and evaluates the implications of those risks for development, stability, and security. It incorporates an extensive set of variables derived from multiple secondary and primary sources and examines their interactions with a view toward formulating alternative scenarios and specific policy recommendations. The goal of the ESAF is to inform policymakers, facilitate the establishment of clear priorities, and contribute to the development of effective and sustainable programs. (A detailed outline of the ESAF appears in Appendix II of the complete version of this report.)

- The conceptual touchstone and key dependent variable of the analysis is *security*. Thus, this study focuses on the pathways by which environmental problems and the use or abuse of natural resources may threaten the Dominican Republic's stability and security. The diversity and depth of interdependence between the Dominican Republic and the United States means that insecurity and instability in the Dominican Republic has potential ramifications for U.S. security.

- The national security implications of environmental stresses are especially compelling in the case of the Dominican Republic, a poor island state vulnerable to natural hazards, with an economy moving from a centuries-old agricultural base toward the rapid expansion of tourism, and with increasing numbers of urban poor lacking clean water and basic sanitation. The migratory pressures from neighboring Haiti—itsself struggling with a near-collapse of its environmental resources—only serve to strengthen the linkage between environment and security.
- For the pilot case study of the Dominican Republic, in addition to extensive secondary research, a team of FESS researchers made four extensive visits between July and November 2004, conducting 75 interviews with top government officials, legislators, administrators, military officers, policy experts, academics, and representatives of civil society and the private sector (see attached list).
- The field research was conducted in areas of special environmental concern, including the national capital of Santo Domingo, the second largest urban area (Santiago de los Caballeros), and the northwestern and eastern regions. Areas of particular focus included the border region with Haiti in the northwest and the Punta Cana/Bávaro tourist concentration in the east. Questions generated from the ESAF, mostly open-ended, provided the basic framework for the interviews. In addition to the data collected through interviews, contacts in the Dominican Republic provided many invaluable documents, studies, and reports.

IV. The Current Context: Dominican Promise, Dominican Peril

In recent years, the Dominican Republic has demonstrated both a capacity for political and economic progress and a vulnerability to sudden and unexpected reversals. This volatility has raised special concerns in the areas of environmental trends, relations between Dominicans and Haitians, and prospects for sustained economic growth.

Environmental Trends

The status of environmental stewardship in the Dominican Republic can be evaluated from contrasting perspectives. On the pessimistic side:

- A leading Dominican scholar and environmentalist in an interview cited trend data and concluded: “We are destroying our environment today faster than the Haitians destroyed theirs in the last century.”
- The *2005 Environmental Sustainability Index* of the World Economic Forum ranked the Dominican Republic 119 out of 146 nations; Haiti, at 141, was the only country in the Western Hemisphere ranked lower.
- Unsustainable agricultural practices (e.g., hillside farming, deforestation, improper or excessive irrigation) have raised yields but also resulted in soil erosion and salinization.
- Tourism, the new leading industry, is contributing to salinization of surface and ground waters in the country’s coastal areas; increasing stress on fragile wetlands, mangroves and reefs; and aggravating vulnerability to natural hazards.
- Rapid urbanization is creating environmental problems that are outpacing the state’s capacity to respond.
- The overall increase in forest cover between 1980 and 1998 was only 1.1 percent; continuing deforestation and costly reforestation appear to cancel each other out.

On the optimistic side:

- 28 percent of the Dominican Republic is still forested (compared with 1 percent in Haiti).
- Legal and institutional mechanisms for environmental protection have been created recently, and environmental advocacy and consciousness are growing.
- Rapid deforestation began to decrease around 1980 and has been slightly reversed since; coniferous forest cover increased tenfold between 1980 and 1990.

The Dominican Republic still has time to prevent the disastrous environmental decline that has afflicted Haiti. The DR has made significant progress, especially in curbing deforestation and instituting environmental regulation. But efforts to stop soil erosion, salinization, and coastal and marine degradation have not yet succeeded, nor has the effort to provide sanitation to the rapidly increasing urban population produced significant advances.

Demography, Economic Change, and Dominican-Haitian Tensions

The Dominican Republic has been experiencing a demographic transition since the middle of the twentieth century.

- High birth rates propelled a 355 percent increase in the population between 1950 and 2000.
- Since 1970, urbanization, increased education, and economic growth have led to sharply decreasing birth rates and decreasing population growth, despite increasing life expectancy.
- Birth rates and population growth rates will continue to drop as the urban population increases from 58.9 percent in 2002 to 64.6 percent by 2015. Large urban-rural differences in living standards will fuel urbanization for the foreseeable future.

The Dominican Republic has undergone an economic transformation during the same period.

- National income has multiplied in recent decades. Except for occasional recessions, the economy has been growing steadily since World War II.
- The main agricultural export commodities that had been central to the economy—sugar, coffee, and tobacco— have declined in importance.
- Tourism, free-trade zones, and immigrant remittances have emerged as the key sectors of the economy.

Economic growth has not increased the living standards of all sectors of the population.

- Large-scale unemployment, underemployment, and informal employment continue.
- Most jobs in tourism and free-trade zones are low wage.
- Limited economic opportunities drive a large and continuing flow of legal and illegal immigrants to the United States; remittances have become both a major source of national income and a matter of survival.

The Dominican Republic is not only a major immigrant-sending country but also a significant destination for immigrants, resulting in a familiar debate over the balance of positive and negative consequences of that immigration.

- Haitian workers are present in ever-wider sectors of the economy, have become integral to its functioning, and are especially key for agriculture, construction, and the landscaping of tourist facilities.
- Prejudice and the history of binational conflict make the growing Haitian presence a source of tensions.
- The Haitian population in the Dominican Republic, over 75 percent male and mostly undocumented, poses challenges to the DR in terms of human rights, legal rights, social conditions, and health.
- In combination, environmental problems, the vulnerability of key economic sectors, and Dominican-Haitian tensions have the potential to contribute to instability and insecurity in the Dominican Republic.

Democracy, Corruption, and Debt

By the late 1990s, the Dominican Republic not only boasted a democratically elected government, a relative rarity in the country's history, but also the highest economic growth rate in all of Latin America. The outlook appeared optimistic during the early stages of the Hipólito Mejía administration (2000-2004), but seriously deteriorated during its latter stages.

- The BANINTER banking group scandal, the massive government bailout of investors, and the steep decline in the value of the peso produced a sharp drop in the purchasing power of salaries and pensions.
- In 2003-2004, government debt skyrocketed, the economy contracted, chronic blackouts plagued the country, GDP per capita decreased by 25 percent, and political and social discontent mounted leading to the election in August 2004 of opposition leader Leonel Fernández.

Huge challenges faced the new administration, involving intertwined economic, fiscal, debt, and electricity crises, all coupled with high popular expectations.

- The new government, through a combination of fiscal reforms and spending cuts, succeeded in stabilizing the economy, curtailing popular discontent, and increasing the confidence of investors and foreign governments in the Dominican Republic.
- Looking beyond the crisis, the main growth pillars of the Dominican Republic face significant challenges. Tourism is vulnerable to natural disasters and environmental degradation. The free trade zones face new competition in the global market. Remittances may continue to grow in the short run, but decreasing net Dominican immigration into the United States raises doubts about the continuation of this trend.
- As the experience of the late 1990s shows, the Dominican Republic has the promise of sustained economic growth under democratic governance. But, as the 2003-2004 crisis suggests, that progress is fragile.

V. Findings

Our research identified seven general areas of concern in relation to environmental security. Five of them relate to institutional weaknesses of the Dominican state:

- 1) Environmental Governance
- 2) Electricity
- 3) Natural Hazards
- 4) Land Use Planning and Management
- 5) Unsustainable Practices in Agriculture and Tourism.

Two other problems relate to deep-seated economic, social, and political realities in the Dominican Republic:

- 6) The Poverty-Environmental Degradation Nexus
- 7) Dominican-Haitian Tensions—One Island, Two Nations

Institutional Weakness

In both state and civil society in the Dominican Republic, the absence of rules, low rates of compliance with existing rules, and the limited capacity (or will) to enforce rules both reflect and reinforce values and norms that undermine the efficient and sustainable use of the country's natural endowment.

Environmental Governance

The Dominican Republic enacted a general environmental law in August 2000 (Law 64-00), which created the Secretariat of Environment and Natural Resources (SEMARN) to oversee the design and implementation of a regulatory regime covering most major environmental issues, such as air and water quality, pollution control, habitat and species conservation, protected areas, and environmental impact. This was a major step toward ensuring environmental protection and security in the DR, but a number of problems persist.

- The laws covering specific sectors, such as protected areas, have been enacted only recently or have not yet been enacted.
- Political considerations and a crisis-management approach often drove decisions during SEMARN's first four years.
- The Environmental Council called for in the environmental law was not organized during this period.
- SEMARN has many talented and dedicated employees, but not enough sufficiently trained professionals to carry out its mandate.
- The failure to establish effective coordination among the relevant government agencies is a critical concern.
- Corruption continues to be a key concern as evidenced in the sector law on Protected Areas, passed under questionable circumstances during the final days of the Mejía administration, which opened environmentally sensitive areas to investors.

The outlook for the immediate future is somewhat more optimistic.

- The new administration appears more inclined toward institutional development than the former one.

- The minister of the environment has identified the preparation of draft sector laws on Biodiversity, Coastal Marine Resources, and Forestry Resources as a top priority in the near term, and work is underway in all three areas.
- The minister is moving toward establishing the Environmental Council and is reaching out to civil society and environmental groups.
- SEMARN is considering legislative options to recapture some of the lost authority to protect sensitive environmental areas.

The Electricity Crisis

- There have been recurring “electricity crises” in the Dominican Republic for more than two decades.
- The DR electricity problem is complex, with social, institutional, cultural, financial and technical dimensions.
- The first Fernández administration’s (1996-2000) partial privatization opened the electricity sector to foreign investment, increased the number of consumers paying their electricity bills, and produced some financial recovery and reduction in government subsidies. But the system’s weaknesses, including massive reliance on oil imports and the social and political demand for large government subsidies remained.
- The fiscal and economic crisis of the latter half of the Mejía administration led to government underpayment to the electric companies, massive blackouts, and a state takeover of the previously privatized companies.
- Resolving the electricity crisis will require the state to confront powerful business interests, ensure the integrity and effectiveness of the judicial system in prosecuting fraud and theft, reduce gradually the subsidies provided to a vast political constituency of poor people through more universal collection, invest in the maintenance and modernization of the electricity infrastructure, and begin a serious push to develop alternative sources of energy.

Natural Hazards

The Dominican Republic is vulnerable to major disasters, especially hurricanes and floods, but also earthquakes and tsunamis. Indeed, hurricanes and floods have inflicted major human and material tolls in the last decade, prompting a response from the state and civil society.

- The creation of a National Emergency Commission has increased coordination among relevant agencies and improved the Dominican Republic’s capacity to respond to natural disasters.
- Further improvements are essential given the high risks and potential economic and security costs and implications; the Commission and its Civil Defense suffer from excessive centralization and a scarcity of resources.
- Urbanization, population growth, and tourist development increase the country’s vulnerabilities to natural disasters.
- In order to prepare for and mitigate the negative impacts of natural hazards, the Dominican Republic needs to adjust its priorities in terms of resources and focus. Policies must correspond to the potentially grave consequences of natural disasters.

Land Use Planning and Management

- The virtual absence of zoning standards and land use planning is degrading the country’s natural resource base and could threaten the future security and stability of the country.

- Rational and sustainable land use is critical to the DR's capacity to feed its population, provide water, develop the tourism industry, and diminish vulnerability to natural hazards.
- Deforestation, cultivation and grazing in unsuitable land, and unplanned urban growth are some of the major consequences of the lack of land use management, leading to erosion and loss of rich soils, water scarcity, loss of hydroelectric generating capacity, and myriad urban environmental problems.
- The absence of land use planning and policies is the legacy of limited institutional capacity, insufficient political priority and will, and scarce human and financial resources.
- Although the Dominican state has been moving toward instituting land use planning for several years, this issue deserves to have a higher priority if planning and management are to catch up with events.

From Slash and Burn Agriculture to Slash and Burn Tourism?

The traditional economy of the Dominican Republic was based on unsustainable practices—including slash and burn agriculture, hillside farming, and overgrazing—but until well into the twentieth century this fact was masked by an abundance of land relative to population. That the declining but still important agricultural sector continues to employ unsustainable methods is perhaps less troubling than the realization that the rising tourism industry appears to be headed in the same direction—only at a faster rate.

- These two critical components of the DR's economy and security—agriculture and tourism—depend heavily on a healthy environment for long-term sustainability.
- The long-term rationality of sustainability often clashes with short-term needs for job generation, income growth, government revenues, debt reduction, political patronage, and profits.
- Agriculture has and will continue to decline (11.5 percent of GDP in 2002) but unsustainable practices continue to extract an environmental toll.
- A driving force behind the irrational use of land and water for agriculture is the desire by political leaders to achieve food security through making the food supply as cheap and reliable as possible. Changing this pattern is essential but will require political will.

The tourism sector is widely seen as the DR's motor for growth for the foreseeable future, but there also are major environmental challenges for this industry.

- The tourist industry is plagued by a lack of basic services, such as solid waste disposal; inadequate infrastructure, including water and sewer systems; coral reefs under “high” or “very high” risk levels; shrinking underground aquifers threatened by salinization; and very limited enforcement of environmental laws.
- The emphasis on high volume tourism implies significant environmental degradation that over time may destroy the industry. With no clear strategy to achieve a higher-valued added and more environmentally sound model for the long run, the Dominican Republic may benefit temporarily from an increasing volume of tourism, while undermining the long-term viability of the industry.

Five broad challenges face the Dominican tourism industry.

- Rapid growth of tourism has outpaced the development of infrastructure, policies, and services. One example is that the Environmental Police, charged with enforcing environmental laws, has almost no presence in the main tourist areas of the east.
- The current business model for tourism, “slash and burn” tourism, tends to destroy the aesthetic, environmental, and natural resource base upon which it depends. Scarcity of water may impose environmental and economic limits on the current tourism model.
- Changing the tourism model is difficult because the industry is dominated by foreign hotel operators whose profits depend on a high volume of inexpensive tourism; no environmentally sustainable strategic plan for tourism has yet been developed.
- Recent experience indicates the tourism sector is woefully unprepared even for recurring natural disasters such as hurricanes.
- Tourism has brought with it increasing vulnerability to social conflicts. Tourism has become the new employer for Haitians, who are used as construction and maintenance labor but are underpaid and not sheltered or fed during natural disasters.

VI. Poverty and Environmental Degradation

Despite almost continuous economic growth for 50 years and the boom of the 1990s, by every measure widespread poverty continues to plague the Dominican Republic, which ranks 17th out of 23 Western Hemisphere countries on the UNDP Human Poverty Index. Persistent poverty has serious political and social consequences for the DR as well as major implications for the environment and, ultimately, for national security.

- Poverty makes the tradeoffs between short-term economic gains and longer-term economic, environmental, and security concerns more conflictual for nation-states, firms, households, and individuals.
- Government funding for the environment must compete with basic needs such as nutrition, health care, and education.
- For rural Dominicans, the choice may be clearing forests or brush for agriculture or going hungry (or migrating to a big city or another country). For Haitians, the choice may be to cut down trees in order to make charcoal for cooking or to starve.
- Rural poverty not only promotes unsustainable cultivation practices, but through out-migration also aggravates urban environmental problems, possibly leading to instability and violence.

VII. One Island, Two Nations

Haiti is an important variable in the Dominican Republic’s environmental security equation. Hispaniola is the *only* island in the world encompassing two independent nations. United by geography and ecology, the two sides of the island are separated by divergent histories; a background of war, occupation, and genocide; racial, linguistic, and cultural differences; flare-ups of mutual suspicion and antipathy; and striking differences in levels of development and environmental conditions. Asked whether he agreed with other interviewees that Dominican-Haitian relations constitute a “time bomb,” one prominent Dominican intellectual who has written on the subject said: “It is a ticking *atomic* bomb.” Immigration (resulting partly from environmental devastation in Haiti) and natural resources, especially trees, are at the center of Haitian-Dominican tensions today.

While Haitian protests over their mistreatment in the Dominican Republic traditionally have been non-existent or muted given high levels of intimidation and the undocumented status of a

substantial percentage of the Haitian-origin population, five factors may contribute to a change in the foreseeable future.

- Recent Haitian immigrants to the Dominican Republic are mainly of urban origin and live outside the tightly controlled sugar mill *bateyes*, changes that provide a more favorable climate for mobilization in defense of rights.
- A growing number of Haitian-origin persons in the DR are Dominican-born. A movement to advocate for the rights of Dominican-Haitians has developed during the last decades, with significant leadership and international recognition.
- The globalization of human rights and the DR's need for increased integration into the international system provide increasing leverage for advocates for Haitians in the Dominican Republic.
- The DR is not making any significant effort to integrate Haitians, and some recent legislation may lead to greater marginalization and a higher probability of conflict and the international stigmatization of the Dominican Republic, with adverse economic and political implications.
- The headwaters of the Artibonite River, the main source of water for crucial rice cultivation in Haiti, are in the Dominican Republic, and represent an area of special concern. Deforestation on the Dominican side threatens to dry up this resource vital to a desperately poor nation; the construction of dams on the Dominican side could also diminish the flow of water into Haiti.

The fate of the Dominican Republic and Haiti are increasingly intertwined. The future of these two nations historically has been a matter of concern for the United States, and they continue to be important to U.S. interests. While the United States understandably has focused a great deal of attention on Haiti in recent years, the success of the Dominican Republic may be as important to the United States as the rescue of Haiti.

VIII. Scenarios: Environmental Security in the Dominican Republic 2005-2015

The Best-Case Scenario

The components of the best-case scenario for the Dominican Republic for 2005-2015 would include:

- A return to economic growth rates like those experienced in the "Dominican miracle" of the 1990s, but this time with a more equitable distribution of income gains and a lower environmental impact. Economic growth with equity would tend to diminish social conflict and political instability, including that related to natural resource competition.
- Change from a model based on low value-added, mass tourism that produces major adverse environmental impacts in fragile coastal areas to a model based on fewer visitors, higher expenditures per tourist, and more diversified tourist activities.
- Institutional development and consolidation of environmental governance, with the promotion of civic and private-sector participation by making the Environmental Council and Fund created by Law 64-00 operational and implementing an effective decentralization of environmental management functions. This would require an increase in the level and quality of human and material resources for SEMARN and the development and implementation of land use plans nationally, regionally, and locally.

- Institutional capacity to mitigate disasters increasing at a faster rate than in the recent past, and hurricanes and earthquakes of average or less frequency and intensity.
- The beginning and early phases of a significant shift from septic tank systems (or the total lack of sanitation systems) to piped sewage systems with adequate and operational waste treatment capabilities, plus the development of a solid waste management strategy.
- A better balance between highly visible investments to increase water access and less visible but essential expenditures to ensure water quality. Improving water quality and reducing diarrheal diseases would be priorities, along with the rationalized use of water based on real costs.
- Political stabilization, renewed economic development, and increased environmental security in Haiti, accompanied by expanded dialogue, trade, improved environmental practices, a quickening in the pace of economic development in the border region, the beginning of multiple destination tourism, and cooperative and sustainable binational management of the Artibonite watershed.
- The achievement of the objective announced by President Leonel Fernández of making the Dominican Republic a model for anti-corruption and transparency in the Caribbean, with the environment ministry leading the way.
- An increase and diversification of the contributions of Dominicans abroad through new investments in environmentally sustainable development projects, new inputs of know-how and capital, and the encouragement of assistance and cooperation by American NGOs and U.S. local and federal governments, including disaster mitigation and relief.
- The elimination or significant reduction of agriculture based on inappropriate land conversion through managed forestry and better agricultural practices, with the emergence of a shift toward a new model of agriculture based on competitiveness in the global market.
- The steady reduction of the DR's extremely high dependence on imported oil, with an increase in wind, hydraulic, biomass, solar and other forms of renewable energy.
- The emergence of new, clean industries offering higher-wage employment opportunities, such as in the digital/high-tech sector and biotechnology.

The Worst-Case Scenario

The components of the worst-case scenario would include:

- GDP growth slower than population growth, resulting in increasing impoverishment, greater stress on natural resources, reduced resources for environmental management and disaster mitigation, increased undocumented migration, and political instability.
- Natural disasters of increasing severity and frequency, with massive casualties and great property loss. These would expose the inadequacy of building codes, evacuation plans, and relief capacities, reducing the legitimacy of the government and leading to political instability and street mobilizations.

- The inability of successive governments from all of the major parties to solve the worsening economic and institutional crises, which would undermine the party system and promote various strands of populism as well as threats of military rule.
- A reversal in the growth of the tourism sector as a result of the myriad environmental problems associated with overdevelopment and/or the emergence of Cuba or other destinations as powerful competitors for tourists.
- A greater deterioration of the situation in Haiti, with increased migration of Haitians to the Dominican Republic, outstripping labor market needs and straining ethnic relations. If this situation led to Dominican repression of Haitians and violent inter-ethnic conflict in the cities and on the border, this would decrease foreign investment and tourism and might also trigger inter-state conflict between the Dominican Republic and Haiti.
- A worsening water shortage within the next ten years, with multiple negative effects for development, environmental security, and human security. The lack of water in the urban slums of Santo Domingo would fuel strife. The scarcity and increasing cost of water would have negative consequences for tourism.
- The failure of the free trade zones to integrate into the evolving global market, with a loss of jobs and the increasing likelihood of social and political unrest.
- Decreased net legal migration to the United States. The legal immigration crunch might trigger an increase in unauthorized migration.
- A worsening of the country's energy problems. The country would continue to rely almost completely on imported oil. Hydroelectric generation would drop as a result of the silting of dams. With demand rising as a consequence of rapid economic development in China, India, and other oil-importing countries, oil prices would rise steeply over the next decade, damaging the Dominican economy. Oil-producing Latin American countries might decrease their subsidies to the Dominican Republic as the revenues lost from such generosity increased.

The Intermediate (and Most Likely) Scenario

The components of the intermediate scenario would include:

- A positive rate of growth moderately above the rate of population growth. The continuing drop in birth rates might contribute to a somewhat steeper increase in GDP per capita than in earlier periods.
- Zero or negative economic growth in free trade zones, as some old industries would be replaced by new ones, allowing employment growth in other sectors to compensate for losses in the free trade zones.
- Water shortages in some areas, with supplies to the two main urban areas continuing despite sporadic shortages, especially in slum areas, while the water supply problem would become acute in some rural regions. This disparity would continue to fuel migration, swelling the urban slums and increasing the potential for conflict.

- The continuations of “slash and burn” tourism, although with a better mix of sustainable and alternative forms of tourism. Decreased supplies of fresh water in tourist areas would limit the growth of mass tourism and encourage alternative and high-end tourism.
- Gradual improvement in environmental governance, including strengthening of the Environmental Police, with predictable setbacks during periods of governmental transition. Civil society groups would strengthen, and an environmental culture would begin to develop and take root among the general public.
- Increased remittances (but at a decreasing rate) for several years before peaking and beginning to decline gradually. The flow of undocumented Dominicans to the United States and of deportations to the DR would fluctuate within manageable parameters for both countries.
- Continued Haitian immigration, with further diversification in Haitian labor market participation. Relations between Haitian immigrants and Dominicans would show a mixed pattern, with continuing tensions and instances of conflict as well as dialogue and cooperation, but no massive repression, deportation, or violence. However, a comprehensive effort to integrate and regularize the legal status of Haitians would not occur.
- Continued heavy reliance on fossil fuels for energy generation, with the oil bill preventing the Dominican economy from sustaining the economic growth rates of the 1990s. The electricity crisis would be alleviated with increased collections and rationalization of the sector, but the government would be forced to maintain substantial subsidies, and there would remain occasional blackouts and possibly short-term or local crises.
- Several major natural disasters with substantial loss of life and property damage. Whether a massive, transformational disaster would take place is unpredictable. The capacity of the Dominican state to deal with “normal” disasters would continue to improve incrementally over the decade.

IX. Transformational Development or Toward a Vulnerable State?

The contrasting futures alluded to by the subtitle of this report—one of promise or one of peril—both reflect plausible outcomes for the Dominican Republic.

- The central thesis of this report is that the lack of a strategic focus on environmental and natural resource issues, in the context of the country’s complex political and economic dynamics, presents a possible threat over the medium term to the stability and security of the Dominican Republic. An unstable Dominican Republic is a potential threat to U.S. interests and security.
- Today, the impact of environmentally unsound practices and the depletion of finite resources are becoming ever more apparent in land degradation, the deterioration of marine and coastal areas, diminishing water supplies, and increasingly polluted and unhealthy urban areas.
- Tourism stands out as the likely engine of growth for the DR over the short to medium term. Yet, there are a host of concerns associated with the current tourism model that call

into question its sustainability, including the lack of infrastructure, inadequate sanitation facilities, saltwater intrusion, weak regulatory enforcement, and lack of preparedness for natural hazards.

- SEMARN will need increased institutional strength and presidential backing to resist powerful political and economic interests seeking private gain at public expense. Similarly, only with support from the executive will SEMARN be able to hold its own in interagency policymaking and in its effort to make environmental and natural resource issues cross-cutting policy concerns throughout the government.
- SEMARN will be tested as well in terms of its enforcement capacity, and the recent strengthening of the Environmental Police is an important step in the right direction.
- There are no silver bullet solutions for the deterioration of living conditions and the persistence of poverty in Santo Domingo and other urban areas, but steps to address issues of waste disposal, water quality, and threats to public health can provide immediate benefits to crowded and impoverished neighborhoods and provide the political legitimacy necessary to carry out more ambitious reforms.
- Migratory and environmental pressures on the Dominican Republic will continue to spill over from Haiti for the foreseeable future. Binational cooperation on programs for environmental protection (or restoration) and sustainable livelihoods has the potential to decrease tensions and increase security on Hispaniola.
- The DR faces many challenges in disaster preparedness, mitigation, and response, but two key areas where progress must be accelerated are decentralization and the integration of civil society. Remote communities need both better information and communications and basic resources to improve their disaster response capacity. As a matter of stability and security, much depends on the perception of citizens that in the event of a national catastrophe the state will respond vigorously, effectively, and with integrity.
- The Dominican Republic remains a candidate par excellence for “transformational development,” which seeks to enable a country to sustain further economic and social progress without depending on foreign aid. But the economic reversals and precipitous loss of public confidence from 2003 to 2004 left the country, as President Fernández has put it, “like a patient in intensive care.”
- Indeed, as the latest USAID white paper on “fragile states” points out, it is often “more important to understand how far and quickly a country is moving from or toward stability” than to categorize it in one way or another. From early 2003 to mid-2004, the Dominican Republic moved quite rapidly toward the unstable pole of the continuum; since that time the country has been making steady progress toward regaining stability.
- Many environmental and natural resource management questions face the Dominican Republic. What will happen if the economy’s leading sector, tourism, falls into decline or collapses? How much longer can the country afford the costs and losses of misguided or nonexistent land use policies? What will people do in the face of severe water shortages? How much stress can the social fabric sustain in terms of poverty, narrowly shared economic growth, environmental degradation, and Dominican-Haitian tensions?

What will be the reaction of the population to poorly coordinated or ineffectual government responses to a series of natural disasters?

- Each of these questions—and possibilities—implies that there is a tipping point at which public attitudes shift, the ability of the state to provide basic services and security comes into question, and the very legitimacy of the government gives way.
- The challenge now for the Dominican government, civil society, and the international donor community is to ensure that actions in support of environmental security are implemented quickly and effectively in order to move the country away from the potential dangers of instability and conflict and toward a path of sustained development.

X. Recommendations

Based on our findings we make the following recommendations:

To the government of the United States (USG):

1. In developing and implementing its policies, the U.S. government should take into account the increasingly strong linkages between environmental degradation, the management of natural resources, and national security in the Dominican Republic. Policy areas informed by these considerations should include:
 - a) Development assistance
 - b) Loan conditions
 - c) Military cooperation
 - d) Immigration policies
2. In the context of U.S. national interests and security concerns, the United States Agency for International Development (USAID) should support efforts to improve the capacity of the government of the Dominican Republic to halt or reverse environmental degradation, prepare for and respond to natural disasters, and sustainably manage natural resources by:
 - a) Supplementing and refocusing current USAID environmental programs aimed at strengthening government institutions and civil society organizations with a new emphasis on strategic aspects of environmental security, especially land use management, sustainable tourism, and natural hazards.
 - b) Helping to accelerate the development of land use policies, watershed management, and coastal and marine protection at the national, provincial, and municipal levels.
 - c) Adjusting policies to allow support of binational programs that enhance environmental security in both the Dominican Republic and Haiti, especially in relation to the Artibonite watershed and other shared resources, as well as in the areas of joint reforestation projects, environmental education and advocacy, and binational tourism.
 - d) Supporting current Ministry of the Environment and Natural Resources (SEMARN) efforts to coordinate and mainstream environmental policies among key ministries and

agencies of the Dominican Republic, including tourism, finance, and transportation, especially through the Tourism Cabinet.

- e) Encouraging and supporting wide public involvement and participation in developing the country's environmental agenda as a national priority, specifically by supporting the activation of the Environment Council established in Law 64-00.
 - f) Supporting the decentralization of disaster response capacity in the Dominican Republic through community-level projects to provide people with basic resources, including flashlights, first aid kits, emergency communications capabilities, and food rations. Soliciting the active support of Dominican-American organizations and the Dominican private sector should be part of these efforts.
 - g) Working with the National Emergency Commission of the Dominican Republic to develop evacuation plans for high-risk areas, such as Santo Domingo, Santiago, and the east coast tourist corridor. These plans should clearly outline which authorities are responsible for which tasks and with whom they are to coordinate their efforts.
3. Working through the office of the Defense Attaché in Santo Domingo, the USG should meet with the head of the Environmental Police on an ongoing basis to develop steps to provide technical assistance to strengthen the Environmental Police in collaboration with such U.S. departments and agencies as the Department of Defense, Environmental Protection Agency, and the Department of the Interior.
 4. Focusing military-to-military relations on issues of military support to civil society, including disaster relief and mitigation.

To the Government of the Dominican Republic (GODR):

1. The GODR should declare environmental security a component of national security and establish it as a strategic priority for the country. Emerging threats to environmental security should be addressed by:
 - a) Developing a strategic plan for sustainable development in the Dominican Republic, with emphasis on land use planning and sustainable tourism.
 - b) Gradually shifting focus, training, and resources away from conventional defense and toward civil defense and environmental enforcement and protection.
 - c) Consolidating professionalism and a sense of identity and mission in SEMARN through adequate funding and support, including:
 - Programs, personnel (including the Environmental Police), and training.
 - A dedicated building for SEMARN.
 - Political support in debates with other ministries.

- d) Developing and promoting SEMARN, the newest ministry, as a model of sound management, transparency, and integrity as a key part of the broader priority of reform of the Dominican state.
- e) Leading by example in applying principles of sustainable development and environmental protection to government projects and investments and by infusing these principles throughout all ministries and agencies of the state and coordinating policies through an active Tourism Cabinet.
- f) Ensuring that government policies send consistent signals by actively discouraging such unsustainable agricultural practices as deforestation, hillside farming, and wasteful irrigation.
- g) Focusing on the provision of sanitation services in Santo Domingo and other urban areas, especially the collection and disposal of solid waste.
- h) Developing a national dialogue and education program to obtain a consensus on the environment as a national priority, including in it green, brown, and natural hazards as key issues, and using it to develop a positive Dominican national identity based on an appreciation of the land and its resources that transcends the traditional negative nationalism based on distinction from and opposition to Haiti.
- i) Giving priority to binational environmental security and protection projects, and emphasizing the environment as an area of common interest and positive dialogue between the Dominican Republic and Haiti.
- j) Taking steps to obtain at least 10 percent of the nation's energy needs through alternative energy sources such as wind, solar, geothermal, and biomass by 2015.
- k) Ensuring the integrity and maintenance of the system of protected areas.
- l) Emphasizing the Dominican Republic's commitment to sustainable development in the country's international communication strategy, including interactions with donors and in the marketing of tourism.
- m) Introducing an incentive system to encourage builders in high-risk areas to adhere to stricter building code regulations and to encourage building owners to retrofit certain structures that are either at a particularly high risk or are of particularly high value, or both.
- n) Setting up official channels for the sharing of natural hazard information between the Dominican Republic and Haiti and among the Dominican Republic, Puerto Rico, and Cuba.
- o) Undertaking confidence-building measures between local communities and government security forces so that people feel safe leaving their homes during natural hazard events.
- p) Developing plans to relocate highly vulnerable families (such as those squatting in and around the port at Haina) to areas where they can live safely and have reasonable access to employment and other livelihood-sustaining necessities.

2. SEMARN should advance and accelerate the implementation of its mandate under Law 64-00 by:
 - a) Leading the effort to develop a national strategic plan for sustainable development and emphasizing strategic planning in its own work, including in the development and implementation of environmental laws and regulations.
 - b) Convening as soon as possible the Environmental Council established by the environmental statute as part of a more comprehensive dialogue to establish the environment as a national priority and foster environmental consciousness as a positive source of national pride and cohesion.
 - c) Working toward the completion of all sectoral laws and regulations in the environmental area.

To the Dominican private sector:

1. The Dominican private sector should help mitigate the potentially catastrophic effects of natural hazards on economic growth and public safety by:
 - a) Developing and encouraging the adoption of insurance schemes for publicly held infrastructure at risk.
 - b) Leading a nationwide program to provide churches and other trusted institutions with radios so that isolated communities can be kept abreast of storm developments that may impact them.

To Dominican civil society:

1. Dominican civil society organizations and interested citizens should promote awareness of and solutions to environmental risks to individual, local, and national security by:
 - a) Taking actions to create a “Forum on Environmental Security” as suggested by Dominican participants from the public sector, academia, NGOs, and the private sector at the November 2004 roundtable in Santo Domingo on “Promise or Peril? Environmental Security in the Dominican Republic.”

XI. Persons Consulted for this Study

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The **Foundation for Environmental Security and Sustainability (FESS)** is a non-profit public policy foundation established to advance knowledge and provide practical solutions for key environmental security concerns in the developing world. FESS combines empirical analysis with in-country research to construct policy-relevant analyses and recommendations to address environmental conditions that pose risks to national, regional, and global security and stability.



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