



## EXECUTIVE SUMMARY

# HAITI - DOMINICAN REPUBLIC ENVIRONMENTAL CHALLENGES IN THE BORDER ZONE



United Nations Environment Programme



<http://unep.org/Haiti/>



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Fishermen's associations on both sides of the border in the cities of Pedernales and Anse-à-Pitre work together on issues related to sharing of best practice and fishing techniques, dispute resolution and trade.

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## THE JOINT MANAGEMENT OF TRANSBOUNDARY NATURAL RESOURCES:

A first step towards the resolution of binational environmental and social conflicts

The issues in the border zone of Haiti and the Dominican Republic are perceived in different ways by people living and working in the region. Some feel that despite the problems that may arise here, the area provides an opportunity for the people of our two countries to cooperate, share experiences and find joint solutions to shared problems. At the same time, others consider the border zone as a region where development opportunities are limited by poverty and isolation.

Notwithstanding these different perspectives, addressing the challenges in the border zone is important not only for the development of local communities, but also for the implementation of cooperation strategies and joint initiatives between the two countries. For this reason, the governments, development actors, and civil society in both countries have strengthened their efforts in the border zone and are building on successful initiatives that have already taken place.

Among these efforts, we would like to mention those initiatives adopted at both the community and government levels that seek to address the diverse challenges in the border zone, some of which have stemmed from the short-sighted exploitation of natural resources. At the same time, we welcome the efforts of the Joint Dominican-Haitian Bilateral Commission, a flagship initiative which will guide the implementation of joint interventions in the border zone. This initiative, which originates from the highest levels of both States, has catalyzed the development of an increasing number of binational programs.

In the environmental sector, momentum for joint programs has also grown. On 16 May 2011, the Ministry of Environment and Natural Resources of the Dominican Republic, the Ministry of Environment of Haiti, and the Norwegian Ministry of Foreign Affairs, signed a Declaration of Intent, in Ouanaminthe, for the Triangular Cooperation between the three parties, to support the Frontera Verde Programme. The first step in this cooperation was to implement the first phase of the

Transboundary Natural Resource Management and Restoration Project, focusing on the Massacre and Pedernales Watersheds. Technical support in the implementation of this work is being provided by UNEP and UNDP. This commitment further highlights the willingness of our two governments to jointly address the problems associated with natural resource management in the border zone.

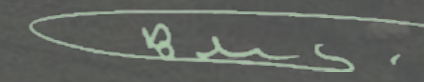
We are aware that in order to effectively address the challenges faced in the border zone, a deep understanding and an accurate analysis of the driving forces that have contributed to the present situation is necessary. For this reason, we welcome this report and analysis on the state of transboundary natural resources and how they are linked with different aspects of life both within the border zone and within our respective countries. This report provides information on natural resources and their role in trade, agriculture, human mobility, energy, among others.

This document provides up-to-date information and confirms the close relationship that exists between the state of transboundary natural resources, poverty, and recurring social conflicts. In this respect, this report is an indispensable tool that will inform decision making in the coming years.

We congratulate all those who contributed to the preparation of this report, both from our Ministries, UNEP, and other institutions. We invite all actors that are providing assistance, or that are asked to intervene in the border zone, to consult this report and to take into consideration its recommendations when carrying out future action. We are firmly committed and dedicated to take the conclusions and recommendations of this report to the highest levels of our governments. It will inform the work of the Joint Dominican-Haitian Bilateral Commission as well as guide the political decisions and actions undertaken in the border zone.



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Dominican and Haitian reforestation brigades have done a great deal to reverse the negative trend of deforestation in the areas they have targeted. At the same time the brigades offer alternative livelihoods to the people in the communities in which they are active.

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**This report presents the findings, conclusions and recommendations of an 18 month long assessment of the border between the two countries that share the Caribbean island of Hispaniola – Haiti, the poorest country in the Western Hemisphere and the Dominican Republic, a middle-income country. It is along this 380 km border that there is the most contact between the two populations, and the highest likelihood of tension and conflict between them. It is here too that there is the greatest opportunity to have a positive impact on the complex relationship between the two countries.**

It is clear from this picture of the mountains above Lakes Azuei and Enriquillo that farmers have been working these steep hillsides without any form of erosion control and as a consequence the land is severely degraded.

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Paradoxically the challenges in the border zone are driven both by the interdependencies of the two countries and by the stark contrasts in the economic, social and environmental conditions. These differences manifest themselves in the chronic poverty and severe environmental degradation seen in many areas on the Haitian side of the border, as well as illegal transboundary exploitation of natural resources.

The United Nations Environment Programme (UNEP) and the United Nations Development Programme (UNDP) accompanied the Governments of Haiti and the Dominican Republic, through their Ministries of Environment, in undertaking a detailed assessment of the border area. The assessment covered both countries, however, emphasis was put on the Haitian side where the information is scarce and the environmental problems are more pressing.

## THIS ASSESSMENT HAS THREE COMPLEMENTARY OBJECTIVES:

**FIRSTLY**, it sets out to assess how the use of natural resources and environmental degradation in the border zone are contributing to disaster vulnerability, conflict risk, poverty and unsustainable practices. This also includes assessing how resource dependent livelihoods are responding to these challenges.

**SECONDLY**, it presents an analysis of issues and trends, as well as of underlying driving forces, that affect the situation in the border zone.

**FINALLY**, it provides practical recommendations for the two governments and their international partners on how to mitigate the identified risks, capitalize on the opportunities, increase transboundary environmental cooperation, and build resilience to identified areas of vulnerability.

## THE ASSESSMENT TEAM FOUND THAT THE KEY ISSUES OF CONCERN IDENTIFIED IN THE BORDER ZONE CAN BE CONNECTED TO FOUR INTERLINKED DRIVING FORCES:

- Haitian poverty, food insecurity and underdevelopment affect virtually all parts of the border zone.
- Environmental degradation manifests itself mainly in soil erosion, deforestation, and a degraded marine environment.
- Weak governance, especially on the Haitian side of the border, affects all facets of the economy and society.
- Finally, the economic and resource inequalities between the two countries are the cause of many of the transboundary problems identified in the border zone.

Examples of some of the key issues in the border zone include the illegal extraction and trade of natural resources (mainly charcoal, but also firewood and marine resources), agriculture, and large numbers of people crossing illegally from rural areas in Haiti into the Dominican Republic in search of livelihoods due to the degradation of land and a surplus of labour on the Haitian side. Several of the noted problems, such as deforestation and soil erosion, are very large scale and have been developing for generations. Environmental degradation in the worst affected parts of the Haitian border zone is almost completely irreversible, due to a near total loss of vegetation cover and productive topsoil across wide areas.

Several of the identified issues related to the environment and the use of natural resources also present a short term but high instability and conflict risk to the relations between the two countries. These issues include the uncontrolled transboundary charcoal trade; illegal farming and tree cutting on Dominican land in general and inside Dominican Republic protected areas in particular; unclear marine territorial delimitation and illegal transboundary fishing; and the flooding of land and infrastructure due to the rapid rise of Lake Azuei and Lake Enriquillo. The uncontrolled transboundary charcoal trade and tree felling has, for example, already triggered conflict that has led to violence.

At present the overall situation is gradually deteriorating. If current trends continue in the border zone, including practices similar to those which have already caused much of the degradation in Haiti, soil erosion and a reduction in land productivity will worsen significantly on the Dominican side of the border zone as well. This scenario could change dramatically as a result of shocks or sudden changes, such as natural disasters. Such a shock might accelerate the decline and further degrade the stability and development of the border zone.

Climate change is also expected to have a negative impact on the Caribbean in the long term: the average temperature,

the variability of rainfall, and the frequency and average intensity of hurricanes are all expected to increase. All of these effects will have serious consequences for the area in question: an adjustment in precipitation rates alone would have a negative impact on rain fed agriculture, which is the mainstay of the border zone economy.

Most of the driving forces identified are national in scale, which means that it would not be viable to only develop stand alone environmental or local solutions. An integrated and larger scale approach is needed. For example rural food insecurity and extreme poverty are in part driving the unsustainable slash and burn agricultural practices on the Haitian side and triggering the associated extensive soil erosion and deforestation. Similarly, charcoal demand in the border area is low, but in Port au Prince it is high, thus driving the national charcoal economy. A national scale solution on energy is needed to resolve this matter. Finally, land tenure and tenant farming are major obstacles - farmers understandably are prepared to invest only in land they either own or can confidently control for longer periods.

On a more positive note the international relationship between Haiti and the Dominican Republic is quite good, with meetings up to the highest political levels taking place on a regular basis. Important progress has also been achieved by local and national initiatives, such as the financing of binational tree planting brigades within the framework of the Frontera Verde programme, commune level bi-national cooperation, and cooperation between local organizations and associations on both sides of the border. Sustainable agricultural programmes, such as ones that promote agroforestry, and the associated trade represent a major opportunity for poverty reduction in the border region. Such initiatives could provide a critical foundation for larger scale corrective action and investments in crisis prevention.

**MAP: THE BORDER BETWEEN HAITI AND THE DOMINICAN REPUBLIC**



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It is with this more positive outlook in mind that the report concludes with **14 detailed recommendations** that should be developed and implemented by the two governments and their international partners. If implemented, the recommendations are expected to reduce chronic poverty and hunger in the border zone, while promoting more sustainable livelihood practices and enhancing the resilience of the population to shocks and stresses. They also set out to preserve peaceful relations between the two countries through increased national and local level bilateral cooperation that will reduce tensions over border zone issues.

The recommendations are divided into ten bi-national border zone recommendations and four Haitian national scale recommendations. Most solutions will need to be bi-national or at least bi-nationally agreed, due to the very high inter-connectivity of populations and issues across the border.



Two sailing boats arrive, on average, per day, to this site, called Ravin de Dyab in Haiti, a couple of kilometers from the border. Each boat is loaded with about 200 bags of charcoal, which adds up to approximately 2,800 bags entering Haiti from the Dominican Republic per week at this one site alone.

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**BI-NATIONAL BORDER ZONE RECOMMENDATIONS:**

**1 PROTECTING AND INCREASING THE VEGETATION COVER**

Continue to financially and politically support the bi-national reforestation and agroforestry efforts. Increase technical assistance to improve the quality, consistency and sustainability of the re-forestation efforts and implement a more strategic program. Deforestation resulting in severe land degradation is a significant problem in the border zone, therefore such investments are to be prioritized.

**2 SUSTAINABLE AGRICULTURAL DEVELOPMENT**

Reform and develop the artisanal and small scale agricultural sector in the border zone to improve the sustainability of livelihoods. Moving beyond the destructive cycle of slash and burn agriculture requires long term and intensive investment in practical, technical support. Educational campaigns aiming at changing attitudes and building the capacity of local farmers are equally important

**3 TRANSBOUNDARY RIVER FLOOD RISK REDUCTION**

Invest in flood containment and land use planning for affected Dominican and Haitian townships, based on a long term worst case scenario. The flash floods which have damaged Dominican and Haitian towns (Jimani, Fonds Verrets, Pedernales, Anse-a-Pitre) in the border zone are linked to severe and mostly irreversible degradation of the catchments in Haitian territory.

**4 IMPROVE THE SUSTAINABILITY OF TRANSBOUNDARY TRADE AND THE BI-NATIONAL MARKETS, WHILE REDUCING THEIR ENVIRONMENTAL IMPACTS**

Support the existing bi-national markets and provide better opportunities for fair, profitable and more sustainable trade between the two countries. The impact of the bi-national markets is overall positive but they need reform and in some cases rebuilding, to reduce environmental impacts, improve equality, reduce conflict and increase trade.

**5 BORDER ZONE ECONOMIC DEVELOPMENT AND DIVERSIFICATION**

Encourage the transition from subsistence agriculture and illegal and damaging activities to Micro, Small and Medium Enterprises (MSME) led local economic development in agriculture, fisheries and tourism. Boosting MSMEs and the service economy is a proven route for economic development and will draw local populations away from unsustainable livelihoods.

**6 ADDRESS THE CONTAMINATION OF TRANSBOUNDARY RIVERS**

Address the problem of rivers that are polluted by both solid and bacteriological waste and as a consequence spread disease.

**7 IMPROVE EXISTING TRANSBOUNDARY CO-OPERATION MECHANISMS THAT DEAL WITH ENVIRONMENTAL ISSUES AND TRANSBOUNDARY WATERSHEDS**

Build on the mechanisms and platforms for cooperation that already exist on various levels, to create a functioning network of cooperation, both across the border, as well as between the local and national levels. In order to galvanize the necessary political will, the overall cooperation framework should be chaired by the presidents of the two nations. In addition, there is a need to enhance the processes by which governments and projects share information. Lastly it is vital to build the Haitian Government's capacity to participate on an equal level in binational projects.

**8 ENVIRONMENTAL GOVERNANCE FOR THE REGULATION AND CONTROL OF THE CHARCOAL TRADE AND OTHER FOREST PRODUCTS**

Increase enforcement of Dominican and Haitian law on protected areas and forest conservation. Include an analysis on the potential impacts a suppression of the transboundary charcoal trade would have in Haiti.

**9 STRENGTHEN THE MANAGEMENT OF MARINE AND COASTAL RESOURCES**

Reduce the decline of the marine and coastal environment in the border zone by ensuring that encroachment and practices that are degrading the state of the environment are not taking place, in particular in relation to overfishing and the cutting of mangroves.

**10 LAKE AZUEI AND LAKE ENRIQUILLO FLOODING ANALYSIS**

Undertake a hydrological data collection and analysis study on the causes of the rise in the level of Lakes Azuei and Enriquillo and their potential to keep rising.

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## HAITIAN NATIONAL LEVEL INVESTMENT RECOMMENDATIONS

These recommendations are not new, rather they are part of existing initiatives at the Haitian national level, specifically the Haitian Strategic Plan for the Development of Haiti: Emerging Country by 2030 (Plan Stratégique de Développement d'Haïti: Pays émergent en 2030). The four recommendations are selected from the development plan and are considered to be the ones that are of most relevance for the situation in the border zone.

### 1 IMPROVING GOVERNANCE IN RURAL AREAS

Increasing the presence and role of the state in rural areas, while ensuring the continuous involvement of local stakeholders, covering a broad range of responsibilities including social services, policing, customs, town administration, agricultural and business development and environmental protection. The aim of this recommendation is to extend the state presence to rural areas, while prioritizing growth poles and sensitive areas such as the border.

### 2 NON-AGRICULTURAL ECONOMIC DEVELOPMENT AND DIVERSIFICATION

Providing viable alternatives to subsistence agriculture through large scale development of the manufacturing and service sectors, particularly in the main urban centres.

### 3 REPLACE CHARCOAL WITH LPG

Implement an integrated programme of regulatory reform, incentives and enforcement to replace the use of charcoal (used for cooking) with LPG, supplemented by other alternative energy options (including renewables) and improved electrification of the country. The programme would focus on urban centres and Port au Prince in particular.

### 4 SUSTAINABLE AGRICULTURAL DEVELOPMENT AND RE-FORESTATION

Implement the Haitian National Plan for Agriculture, with a particular emphasis on sustainability. Replace unsustainable slash-and-burn and the cultivation of annual crops on steep slopes and degraded land with more sustainable forms of agriculture and tree planting, with a focus on agroforestry and energy cropping. Integrate erosion control measures into all agricultural landscapes. Extract greater value from remaining viable land with improved techniques and investments in agricultural value chain development.

The total estimated cost of the ten targeted bi-national level recommendations for the border zone is USD 136 million over five years. This is a small sum compared to the possible cost of the social and political crises – and the hunger and violence – that might result from the continued environmental degradation of the border area. Costs for the national level investments for Haiti will need to be detailed within the Haitian strategic plan for development.

**In closing, the situation is already serious in the border area and continues to deteriorate. In the absence of significant corrective and preventative action, further decline and increased instability is likely. International development assistance and conflict prevention support will be required to part-finance the recommendations of this report. UNEP and UNDP are ready to help the Governments of Haiti and the Dominican Republic implement the recommendations of this report, and call for the support of international and national partners and donors.**

For the full report in French, Spanish and English, please go to [www.unep.org/disastersandconflicts](http://www.unep.org/disastersandconflicts)

Fishermen have reduced the mesh size of their nets and overfished in general, all of which has resulted in smaller and smaller catches.

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