



PARAGUAY

# BOQUERÓN

NDPBA DEPARTMENT PROFILE

# PARAGUAY BOQUERÓN

## CAPITAL: FILADELFIA

Area: 103,050 (km<sup>2</sup>)

The Boquerón department is located in the Western region of Paraguay. This department is divided into 3 districts: Filadelfia (The Capital), Mariscal José Félix Estigarribia and Loma Plata. The department borders Argentina, Bolivia, and the departments of Presidente Hayes and Alto Paraguay. The main economic sources are livestock and agriculture.



## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Moderate

Score: 0.566 • Rank: 7/18



### RESILIENCE (R) - Very Low

Score: 0.375 • Rank: 16/18



### MULTI-HAZARD EXPOSURE (MHE) - Low

Score: 0.447 • Rank: 14/18



### VULNERABILITY (V) - Very High

Score: 0.699 • Rank: 2/18



### COPING CAPACITY (CC) - Low

Score: 0.448 • Rank: 14/18



Population (2015)

**64,298**



Infant Mortality Rate

**20.7**



Illiterate population

**11.8%**



Access to improved water

**88.1%**



Average life expectancy

**73.2 years**

\*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



## MULTI-HAZARD EXPOSURE (MHE)

**RANK: 14 / 18 DEPARTMENT**  
**SCORE: 0.447**





**MHE**  
**0.447**


**Raw MHE**  
**0.196**


**Relative MHE**  
**0.698**


### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:


 **Inland Flood**  
**27%**  
 👤 **17,596**  
**\$375.2 Million**

 **Wildfire**  
**74%**  
 👤 **48,484**  
**\$626.4 Million**

 **Water Deficit**  
**97%**  
 👤 **63,105**  
**\$758.6 Million**

 **Drought**  
**4%**  
 👤 **2,888**  
**\$21 Million**

 **Extreme Cold**  
**65%**  
 👤 **42,224**  
**\$496.3 Million**

 **Storm**  
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 👤 -  
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## VULNERABILITY (V)

**RANK: 2 / 18 DEPARTMENTS ASSESSED**  
**SCORE: 0.699**

Vulnerability in Boquerón is primarily driven by Population Pressures and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the department's overall Vulnerability score.



### Environmental Stress

0  1 **SCORE: 0.659** **RANK: 5/18 DEPARTMENTS ASSESSED**

**1.11%** Cultivated Area Change  
**33.79%** Deforestation



### Vulnerable Health Status

0  1 **SCORE: 0.530** **RANK: 6/18 DEPARTMENTS ASSESSED**

**73.23** Life Expectancy (years)  
**20.7** Infant Mortality Rate (per 1,000 live births)  
**125.5** Maternal Mortality Ratio  
**41.99** Adult Malnutrition  
**29.0%** Population with Disability  
**36.7%** Population Reporting Illness or Injury



### Clean Water Vulnerability

0  1 **SCORE: 0.474** **RANK: 4/18 DEPARTMENTS ASSESSED**

**88.12%** Households with Improved Water Source  
**48.38%** Households with Improved Sanitation



### Information Access Vulnerability

0  1 **SCORE: 0.728** **RANK: 4/18 DEPARTMENTS ASSESSED**

**11.8%** Illiteracy Rate (Age 10+)  
**7.1** Average Years of Schooling  
**25.44%** Households with Internet  
**69.73%** Households with Television  
**71.5%** Households with Radio



### Economic Constraints

0  1 **SCORE: 0.575** **RANK: 8/18 DEPARTMENTS ASSESSED**

**57.78** Economic Dependency Ratio  
**21.46%** Poverty Rate  
**0.59** Income Inequality (GINI)



### Gender Inequality

0  1 **SCORE: 0.935** **RANK: 1/18 DEPARTMENTS ASSESSED**

**0.23** Female to Male Secondary Education\*  
**0.44** Female to Male Economic Activity\*  
**0.41** Female to Male Average Monthly Income\*

\*Higher values indicate greater gender disparity.



### Population Pressures

0  1 **SCORE: 0.993** **RANK: 2/18 DEPARTMENTS ASSESSED**

**2.32%** Average Annual Population Change



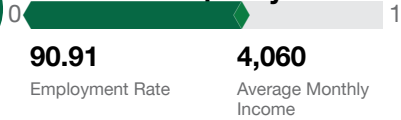
## COPING CAPACITY (CC)

**RANK: 14 / 18 DEPARTMENTS ASSESSED**  
**SCORE: 0.448**

Boquerón exhibits weaker Coping Capacity in the areas of Energy Capacity and Transportation Capacity. The bar chart indicates the socioeconomic themes contributing to the department's overall Coping Capacity score.



### Economic Capacity

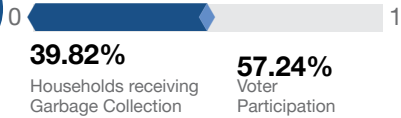


SCORE: 0.611

RANK: 5/18 DEPARTMENTS ASSESSED



### Governance



SCORE: 0.499

RANK: 7/18 DEPARTMENTS ASSESSED



### Crime Governance



SCORE: 0.983

RANK: 1/18 DEPARTMENTS ASSESSED



### Environmental Capacity



SCORE: 0.609

RANK: 4/18 DEPARTMENTS ASSESSED

**(COPING CAPACITY CONTINUED)**



**Infrastructure Capacity**



**Health Care Capacity** **SCORE: 0.443** **RANK: 9/18 DEPARTMENTS ASSESSED**

<b>4.76</b> Hospital Beds per 10,000 People	<b>9.84</b> Physicians per 10,000 People	<b>10.47</b> Nurses per 10,000 People	<b>19,216.80</b> Average Distance to Nearest Hospital (km2)	<b>99.53%</b> Vaccination Coverage	<b>75.15%</b> Access to Healthcare
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**Transportation Capacity** **SCORE: 0.223** **RANK: 16/18 DEPARTMENTS ASSESSED**

<b>0.14</b> Road Density (km per sq. km)	<b>86.52</b> Distance to Airport or Seaport (km)
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**Communications Capacity** **SCORE: 0.292** **RANK: 16/18 DEPARTMENTS ASSESSED**

<b>90.0%</b> Households with Mobile Phone	<b>9.54%</b> Households with Fixed Phone
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**Energy Capacity** **SCORE: 0.000** **RANK: 18/18 DEPARTMENTS ASSESSED**

<b>87.51%</b> Households Connected to Electric Grid
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**Disaster Management Capacity**



<b>11.11</b> Ambulances per 100,000 People	<b>466.21</b> Distance to Fire Station	<b>98.08</b> Distance to Warehouse
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**RESILIENCE (R)** **RANK: 16 / 18 DEPARTMENTS**  
**SCORE: 0.375**

Boquerón's score and ranking are due to Very High Vulnerability combined with Low Coping Capacity scores.

**Below are the four thematic areas with the weakest relative scores:**



**Population Pressures**



**Gender Inequality**



**Energy Capacity**



**Transportation Capacity**



## HAZARD-SPECIFIC RISK (HSR)



**Flood**

RANK: 11  
SCORE: 0.210



**Drought**

RANK: 17  
SCORE: 0.037



**Wildfire**

RANK: 6  
SCORE: 0.343



**Extreme Cold**

RANK: 1  
SCORE: 0.555



**Water Deficit**

RANK: 1  
SCORE: 0.384



**Storm**

RANK: 12  
SCORE: 0.000



## MULTI-HAZARD RISK (MHR)



**7 / 18**

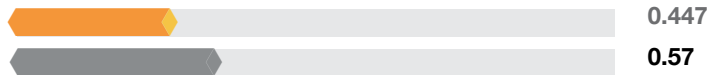
Rank within departments  
Score: 0.566

Boquerón's score and ranking are due to Low Multi-hazard exposure combined with Very High Vulnerability and Low Coping Capacity scores.

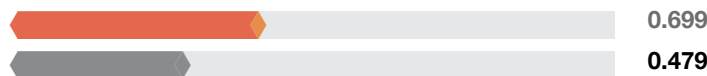
### Multi-hazard risk component scores compared to overall average country scores:



**Multi-Hazard Exposure**



**Vulnerability**



**Coping Capacity**



Department score  
 Country score

# BOQUERÓN RECOMMENDATIONS



## Population Pressures

Rapid changes in population size and distribution can alter population vulnerability characteristics presenting planning challenges and destabilizing social, economic, and environmental systems. Increased population pressures require disaster managers to realign needs, institutional structures, and available resources to support delivery of basic resources before, during, and after an event.

In Boquerón the average annual total population change is 2.32%, 2nd highest in Paraguay. The department is also ranked 2nd highest for overall Vulnerability, which underscores the need to prioritize Boquerón for disaster risk reduction initiatives. Underlying vulnerabilities including Gender Inequality will likely be amplified as the population grows. Invest in public programs to bring awareness of existing vulnerabilities and to reduce their impacts.

Investment in resilient infrastructure needs to be a priority. Focusing on projects to increase energy and transportation capacity. Seek public-private partnerships to help fund projects and ensure that distribution of critical infrastructure is equitable and sustainable.



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# BOQUERÓN RECOMMENDATIONS

## 2

### Gender Inequality

Marginalized populations are less likely to have their needs met under pre-disaster conditions, and therefore become even more susceptible to harm during times of disaster. Increase gender-based inclusion in all phases of DM, ensuring the implementation at the district and local levels. Course of action must recognize the role of women in society and support changes to policies and programs to promote gender-equal access.

Boquerón ranked highest in Paraguay for Gender Inequality. The findings highlight that women are less economically active than men. Additionally, women have lower secondary enrollment rates. Increase funding of public programs that are focused on empowering women to continue their education and join the workforce. Programs should ensure women have the training and skills needed to reduce the wage and employment gap. Explore incentive-based initiatives to encourage employers to hire women and other marginalized groups

Population pressures in Boquerón will likely exacerbate the existing inequalities if no targeted interventions are put in place. As the population grows the competition for employment and educational opportunities will increase. Thus, efforts to ensure equality throughout society should be prioritized.

## BOQUERÓN RECOMMENDATIONS

# 3

### Energy Capacity

Homes, businesses, industry, and government all rely on access to energy resources for continuity of daily activities. Expanding, strengthening, and securing the energy network and increasing the availability and quantity of energy reserves in Boquerón will contribute to economic development and increase the speed of recovery processes in the aftermath of a disaster.

Boquerón ranks lowest for Energy Capacity and only 87.5% of households are connected to the electric grid. Investing in energy capacity will ensure enhanced communications during emergencies and proactively enhance the grid as the population grows.

Extreme cold impacts a large portion of the population and having electricity to help heat the home can reduce indoor smoke exposure. Working to equip homes, business and critical services with backup generators is also important as Transportation Capacity in Boquerón is identified as another driver of risk.

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# BOQUERÓN RECOMMENDATIONS

## 4

### Transportation Capacity

Denser and more diverse transportation networks provide more options for bringing outside resources into an impacted area and increase the ability of response stakeholders to access department populations. Improved transportation capacity supports all aspects of Boquerón's ability to distribute resources before, during, and after a disaster.

Invest in transportation infrastructure that incorporates holistic risk assessment and sustainable development plans. Ensure that environmental mitigation plans for transportation projects consider the environmental stresses and hazards that impact Boquerón. Additionally, the growing population should be a primary focus when planning transportation projects, to reduce bottlenecks and increase evacuation routes.

Evacuation routes and emergency response plans should be adapted as construction is planned and implemented.

**Better solutions.  
Fewer disasters.**

# Safer world.

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