



PARAGUAY

PRESIDENTE HAYES

NDPBA DEPARTMENT PROFILE

PARAGUAY

PRESIDENTE HAYES

CAPITAL: VILLA HAYES

Area: 88,157 (km²)

The Presidente Hayes department is located in the Western region of Paraguay. This department is divided into 8 districts: Villa Hayes (The Capital), Benjamin Aceval, Pto. Pinasco, Nanawa, José Falcón, Tte. 1° Manuel Irala Fernández, Tte. Esteban Martínez, General José María. The department borders Argentina, and the departments of Alto Paraguay, Boquerón, Concepción, San Pedro, Cordillera, Central and Asunción (DC). The main economic sources are livestock and agriculture.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Moderate

Score: 0.559 • Rank: 8/18



RESILIENCE (R) - Very Low

Score: 0.345 • Rank: 17/18



MULTI-HAZARD EXPOSURE (MHE) - Very Low

Score: 0.368 • Rank: 16/18



VULNERABILITY (V) - Very High

Score: 0.610 • Rank: 3/18



COPING CAPACITY (CC) - Very Low

Score: 0.300 • Rank: 18/18



Population (2015)

123,361



Infant Mortality Rate

21



Illiterate population

14.3%



Access to improved water

90.5%



Average life expectancy

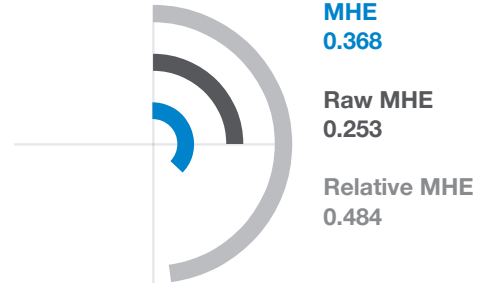
72.7 years

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




MULTI-HAZARD EXPOSURE (MHE)


RANK: 16 / 18 DEPARTMENT
SCORE: 0.368




ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:




Inland Flood
45%
59,988
\$1.4 Billion




Wildfire
38%
51,064
\$638.1 Million




Water Deficit
24%
31,874
\$235.6 Million



Drought
54%
72,565
\$1 Billion



Extreme Cold
27%
35,636
\$267.8 Million



Storm
13%
16,731
\$120.4 Million



VULNERABILITY (V)

RANK: 3 / 18 DEPARTMENTS ASSESSED
SCORE: 0.610

Vulnerability in Presidente Hayes is primarily driven by Population Pressures and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the department's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.437** **RANK: 10/18 DEPARTMENTS ASSESSED**

2.71% Cultivated Area Change
16.44% Deforestation



Vulnerable Health Status

0  1 **SCORE: 0.560** **RANK: 4/18 DEPARTMENTS ASSESSED**

72.71 Life Expectancy (years)
21 Infant Mortality Rate (per 1,000 live births)
82.5 Maternal Mortality Ratio
37.78 Adult Malnutrition
29.7% Population with Disability
38.9% Population Reporting Illness or Injury



Clean Water Vulnerability

0  1 **SCORE: 0.340** **RANK: 9/18 DEPARTMENTS ASSESSED**

90.50% Households with Improved Water Source
63.25% Households with Improved Sanitation



Information Access Vulnerability

0  1 **SCORE: 0.780** **RANK: 2/18 DEPARTMENTS ASSESSED**

14.3% Illiteracy Rate (Age 10+)
7.4 Average Years of Schooling
16.09% Households with Internet
76.79% Households with Television
72.5% Households with Radio



Economic Constraints

0  1 **SCORE: 0.609** **RANK: 7/18 DEPARTMENTS ASSESSED**

60.99 Economic Dependency Ratio
28.49% Poverty Rate
0.52 Income Inequality (GINI)



Gender Inequality

0  1 **SCORE: 0.672** **RANK: 3/18 DEPARTMENTS ASSESSED**

0.05 Female to Male Secondary Education*
0.40 Female to Male Economic Activity*
0.46 Female to Male Average Monthly Income*

*Higher values indicate greater gender disparity.



Population Pressures

0  1 **SCORE: 0.869** **RANK: 4/18 DEPARTMENTS ASSESSED**

2.06% Average Annual Population Change



COPING CAPACITY (CC)

RANK: 18 / 18 DEPARTMENTS ASSESSED
SCORE: 0.300

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



Economic Capacity

0 1 **SCORE: 0.316** **RANK: 16/18 DEPARTMENTS ASSESSED**

90.26 **2,271**
 Employment Rate Average Monthly Income



Governance

0 1 **SCORE: 0.283** **RANK: 17/18 DEPARTMENTS ASSESSED**

26.21% **57.73%**
 Households receiving Garbage Collection Voter Participation



Crime Governance

0 1 **SCORE: 0.458** **RANK: 14/18 DEPARTMENTS ASSESSED**

15.69 **161.88**
 Homicide Rate (per 100,000 People) Property Crime Rate (per 100,000 People)



Environmental Capacity

0 1 **SCORE: 0.138** **RANK: 16/18 DEPARTMENTS ASSESSED**

2.85%
 Protected Area

(COPING CAPACITY CONTINUED)



Infrastructure Capacity

0 1 **SCORE: 0.265** **RANK: 17/18 DEPARTMENTS ASSESSED**



Health Care Capacity **SCORE: 0.470** **RANK: 6/18 DEPARTMENTS ASSESSED**

11.65 Hospital Beds per 10,000 People	13.63 Physicians per 10,000 People	9.83 Nurses per 10,000 People	23,406.32 Average Distance to Nearest Hospital (km ²)	79.35% Vaccination Coverage	80.15% Access to Healthcare
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Transportation Capacity **SCORE: 0.083** **RANK: 17/18 DEPARTMENTS ASSESSED**

0.17 Road Density (km per sq. km)	126.77 Distance to Airport or Seaport (km)
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Communications Capacity **SCORE: 0.242** **RANK: 18/18 DEPARTMENTS ASSESSED**

90.5% Households with Mobile Phone	7.34% Households with Fixed Phone
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Energy Capacity **SCORE: 0.264** **RANK: 17/18 DEPARTMENTS ASSESSED**

90.79%
Households Connected to
Electric Grid



Disaster Management Capacity

0 1 **SCORE: 0.591** **RANK: 10/18 DEPARTMENTS ASSESSED**

9.09 Ambulances per 100,000 People	254.7 Distance to Fire Station	149.15 Distance to Warehouse
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RESILIENCE (R)

RANK: 17 / 18 DEPARTMENTS
SCORE: 0.345

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

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



Population Pressures



Information Access Vulnerability



Transportation Capacity



Communications Capacity



HAZARD-SPECIFIC RISK (HSR)



Flood

RANK: 1
SCORE: 0.498



Drought

RANK: 13
SCORE: 0.302



Wildfire

RANK: 15
SCORE: 0.191



Extreme Cold

RANK: 4
SCORE: 0.488



Water Deficit

RANK: 13
SCORE: 0.097



Storm

RANK: 9
SCORE: 0.235



MULTI-HAZARD RISK (MHR)

8 / 18

Rank within departments
Score: 0.559



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

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



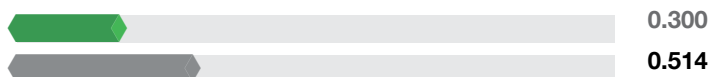
Multi-Hazard Exposure



Vulnerability



Coping Capacity



Department score
 Country score

PRESIDENTE HAYES RECOMMENDATIONS

1

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.

Findings show that the average annual total population change is 2.1%, ranking 4th in Paraguay. As the population grows, so do the risks associated with disasters due to urbanization and expanded public resource needs. Increases in demands on health care, emergency services, and public programs can put strain on already limited resources. Continue to closely monitor the population to adjust plans, policies and programs accordingly.

As the population grows so do the risks associated with disasters due to urbanization and expanded public needs. Increases in the demands for health care and emergency services will strain the already limited resources. Continue to closely monitor the population to adjust plans, policies and programs accordingly. Seek public-private partnerships to help fund projects to increase access to critical infrastructure and services.

PRESIDENTE HAYES RECOMMENDATIONS

2

Information Access Vulnerability

Limitations in information access can impede a population's ability to receive, understand, and take action. Emergency messages must take into account the unique information access constraints of the district. Emergency messages presented to the population of Presidente Hayes must contain clear and simple information to ensure an appropriate response to save lives and reduce losses.

Presidente Hayes ranks 2nd highest in overall Information Access Vulnerability, also exhibiting the 2nd highest illiteracy rate in Paraguay (14.3%). Households' access to television and radio are among the lowest in the country. Population pressures may exacerbate existing limitations in education and communication resources.

Work with communities to better understand the underlying barriers to literacy and education in particular, factors of poverty and gender inequalities may also drive disparities in education.

PRESIDENTE HAYES RECOMMENDATIONS

3

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 Presidente Hayes's ability to distribute resources before, during, and after a disaster.

Although Presidente Hayes has a relatively low population density, limited transportation capacity may hamper emergency response activities and decrease public access to resources. Focus on ensuring transportation projects target areas that have the most limited transportation networks.

Invest in transportation infrastructure that incorporates holistic risk assessment and sustainable development plans. Ensure that environmental mitigation plans for transportation projects consider the hazards that threaten Presidente Hayes.

In addition, the growing population will likely change urbanization dynamics, requiring coordination with land use planners. Closely monitor hotspots of population growth and ensure emergency plans from evacuation and resource transportation routes are updated.

PRESIDENTE HAYES RECOMMENDATIONS

4

Communications Capacity

The density, diversity, resilience, and quality of communications infrastructure influence how department- and local-level populations able to facilitate effective and coordinated communication.

Presidente Hayes ranks lowest in the country in overall Communications Capacity. Just 7% of households have a fixed telephone line, while 90% have access to mobile phone. Expand all communications infrastructure to the department to ensure coverage, accessibility, and reliability of multimodal communications before, during, and after a disaster.

Increasing communications capacity and information technology will also reduce vulnerability by increasing access to Information, ensuring that populations receive, understand, and take appropriate actions when information is provided.

**Better solutions.
Fewer disasters.**

Safer world.

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