



Felipe Méndez Photo

PARAGUAY

ALTO PARANÁ

NDPBA DEPARTMENT PROFILE

PARAGUAY

ALTO PARANÁ

CAPITAL: CIUDAD DEL ESTE

Area: 17,486 (km²)

The Alto Paraná department is located in the Eastern region of Paraguay. This department is divided into 22 districts: Ciudad del Este (The Capital), Presidente Franco, Domingo Martínez de Irala, Dr. Juan León Mallorquín, Hernandarias, Itakyry, Juan E. O’Leary, Ñacunday, Yguazú, Los Cedrales, Minga Guazú, San Cristóbal, Santa Rita, Naranjal, Santa Rosa del Monday, Minga Porá, Mbaracayú, San Alberto, Iruña, Santa Fé del Paraná, Tavapy, Dr. Raúl Peña. The department borders Argentina, Brazil, and the departments of Itapúa, Caazapá, Caaguazú and Canindeyú. The main economic sources are agriculture and lumber.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High

Score: 0.610 • Rank: 3/18



RESILIENCE (R) - Moderate

Score: 0.544 • Rank: 7/18



MULTI-HAZARD EXPOSURE (MHE) - Very High

Score: 0.917 • Rank: 1/18



VULNERABILITY (V) - Low

Score: 0.437 • Rank: 11/18



COPING CAPACITY (CC) - Moderate

Score: 0.525 • Rank: 8/18



Population (2015)

808,172



Infant Mortality Rate

16.4



Illiterate population

6.3%



Access to improved water

55.1%



Average life expectancy

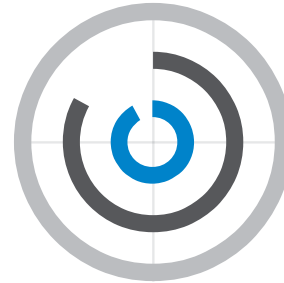
74.4 years

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



MULTI-HAZARD EXPOSURE (MHE)

RANK: 1 / 18 DEPARTMENT
SCORE: 0.917




MHE
0.917

Raw MHE
0.834

Relative MHE
1.000


ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Inland Flood




28%
 219,193
\$6.3 Billion

Wildfire




94%
 743,461
\$11.5 Billion

Water Deficit




26%
 207,349
\$2.7 Billion

Drought




100%
 794,320
\$12.1 Billion

Extreme Cold



2%
 15,073
\$139.8 Million

Storm



100%
 794,320
\$12.1 Billion



VULNERABILITY (V)

RANK: 11 / 18 DEPARTMENTS ASSESSED
SCORE: 0.437

Vulnerability in Alto Paraná is primarily driven by Population Pressures and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the department's overall Vulnerability score.



Environmental Stress

0 1 **SCORE: 0.495** **RANK: 7/18 DEPARTMENTS ASSESSED**

2.51% Cultivated Area Change
20.59% Deforestation



Vulnerable Health Status

0 1 **SCORE: 0.325** **RANK: 16/18 DEPARTMENTS ASSESSED**

74.43 Life Expectancy (years)
16.4 Infant Mortality Rate (per 1,000 live births)
58.2 Maternal Mortality Ratio
33.03 Adult Malnutrition
24.8% Population with Disability
44.5% Population Reporting Illness or Injury



Clean Water Vulnerability

0 1 **SCORE: 0.553** **RANK: 3/18 DEPARTMENTS ASSESSED**

55.10% Households with Improved Water Source
89.00% Households with Improved Sanitation



Information Access Vulnerability

0 1 **SCORE: 0.330** **RANK: 16/18 DEPARTMENTS ASSESSED**

6.3% Illiteracy Rate (Age 10+)
9.1 Average Years of Schooling
20.74% Households with Internet
93.67% Households with Television
80.5% Households with Radio



Economic Constraints

0 1 **SCORE: 0.323** **RANK: 14/18 DEPARTMENTS ASSESSED**

54.62 Economic Dependency Ratio
21.36% Poverty Rate
0.47 Income Inequality (GINI)



Gender Inequality

0 1 **SCORE: 0.372** **RANK: 15/18 DEPARTMENTS ASSESSED**

0.00 Female to Male Secondary Education*
0.36 Female to Male Economic Activity*
0.30 Female to Male Average Monthly Income*

*Higher values indicate greater gender disparity.



Population Pressures

0 1 **SCORE: 0.660** **RANK: 7/18 DEPARTMENTS ASSESSED**

1.61% Average Annual Population Change



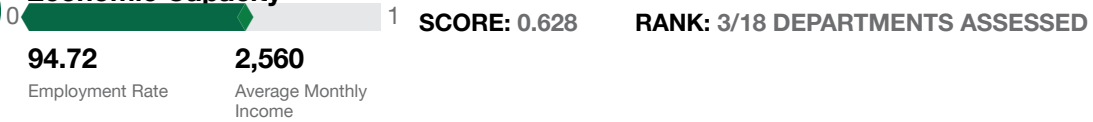
COPING CAPACITY (CC)

RANK: 8 / 18 DEPARTMENTS ASSESSED
SCORE: 0.525

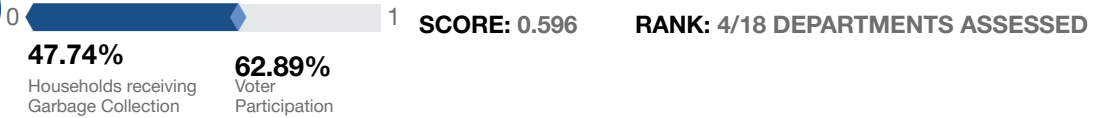
Alto Paraná exhibits weaker Coping Capacity in the areas of Health Care Capacity and Transportation Capacity. The bar chart indicates the socioeconomic themes contributing to the department's overall Coping Capacity score.



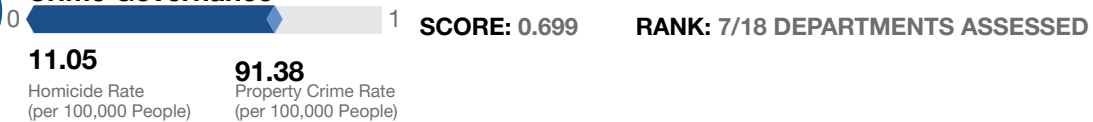
Economic Capacity



Governance



Crime Governance



Environmental Capacity



(COPING CAPACITY CONTINUED)



Infrastructure Capacity



Health Care Capacity **SCORE: 0.313** **RANK: 16/18 DEPARTMENTS ASSESSED**

3.77 Hospital Beds per 10,000 People	6.3 Physicians per 10,000 People	7.38 Nurses per 10,000 People	7,652.28 Average Distance to Nearest Hospital (km ²)	85.60% Vaccination Coverage	67.80% Access to Healthcare
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Transportation Capacity **SCORE: 0.563** **RANK: 5/18 DEPARTMENTS ASSESSED**

1.26 Road Density (km per sq. km)	58.73 Distance to Airport or Seaport (km)
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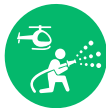
Communications Capacity **SCORE: 0.746** **RANK: 4/18 DEPARTMENTS ASSESSED**

98.7% Households with Mobile Phone	8.24% Households with Fixed Phone
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Energy Capacity **SCORE: 0.998** **RANK: 2/18 DEPARTMENTS ASSESSED**

99.90% Households Connected to Electric Grid



Disaster Management Capacity



1.88 Ambulances per 100,000 People	37.75 Distance to Fire Station	176.1 Distance to Warehouse
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RESILIENCE (R)

RANK: 7 / 18 DEPARTMENTS
SCORE: 0.544

Alto Paraná's score and ranking are due to Low Vulnerability combined with Moderate Coping Capacity scores.

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



Population Pressures



Clean Water Access Vulnerability



Health Care Capacity



Transportation Capacity



HAZARD-SPECIFIC RISK (HSR)



Flood

RANK: 3
SCORE: 0.350



Drought

RANK: 4
SCORE: 0.391



Wildfire

RANK: 4
SCORE: 0.407



Extreme Cold

RANK: 7
SCORE: 0.206



Water Deficit

RANK: 6
SCORE: 0.234



Storm

RANK: 4
SCORE: 0.456



MULTI-HAZARD RISK (MHR)



3 / 18

Rank within departments
Score: 0.610

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

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



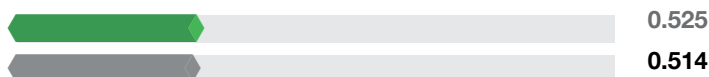
Multi-Hazard Exposure



Vulnerability



Coping Capacity



Department score
 Country score

ALTO PARANÁ 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.

Findings show that the average annual total population change is 1.61%, which is the 7th highest out of the 18 departments in Paraguay. 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.

Alto Paraná is ranked 1st in Multi-Hazard Exposure and investing in resilient infrastructure needs to be a priority. Access to clean water and healthcare resources should be the primary areas of investment, along with increased transportation infrastructure. Seek public-private partnerships to help fund projects to increase access to critical infrastructure. Ensure that infrastructure projects are distributed equitably across the population and are sustainable.

ALTO PARANÁ RECOMMENDATIONS

2

Clean Water Access Vulnerability

Those without easy or adequate access to water distribution and containment systems face significant demands on daily routines that effectively limit their response and recovery capacity and the ability to maintain livelihoods. Increasing access to improved water and sanitation in Alto Paraná improves health outcomes and frees up resources to decrease further susceptibility to impacts.

In Alto Paraná, only 55.1% of households have access to improved water sources. Invest in water delivery infrastructure and ensure that sources are sustainable, as well as reliable. Water stress and droughts are already impacting the population, and this year insufficient rains are causing food insecurities throughout the country. Develop partnerships to invest in water treatment and distribution systems as the growing population and climate change will only exacerbate the already existing vulnerabilities.

The population is highly exposed to hazards, being ranked highest for Multi-Hazard Exposure. The findings also show that the average distance to a warehouse with disaster management supplies is 176.1 square kilometers. Investing in improved water sources will increase the ability of the population to access clean water and reduce reliance on transporting resources long distances in the case of an emergency.

ALTO PARANÁ RECOMMENDATIONS

3

Health Care Capacity

Robust access to skilled caregivers and the dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

Invest in health care capacity to increase resilience in Alto Paraná. Population pressures and low access to improved water sources increase the likelihood waterborne disease outbreaks. With low access to healthcare, limited hospital beds and medical staff, the department is not equipped to handle large scale outbreaks.

Allocate funds, partner with private hospitals and NGOs to increase the number of hospital beds and medical staff available in the case of an emergency event. Ensure that access to care is equitable and continues to expand to keep up with the demands of the growing population.

ALTO PARANÁ 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 Alto Paraná'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 hazards including water deficit and floods that impact Alto Paraná. 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.

**Better solutions.
Fewer disasters.**

Safer world.

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