

**Better solutions.
Fewer disasters.
Safer world.**



Rivas

**Nicaragua National Disaster Preparedness Baseline Assessment
Department Profile**

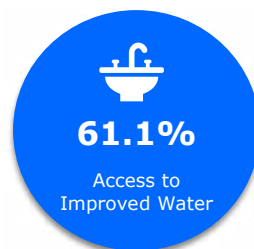
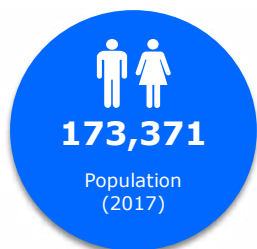
Department: Rivas



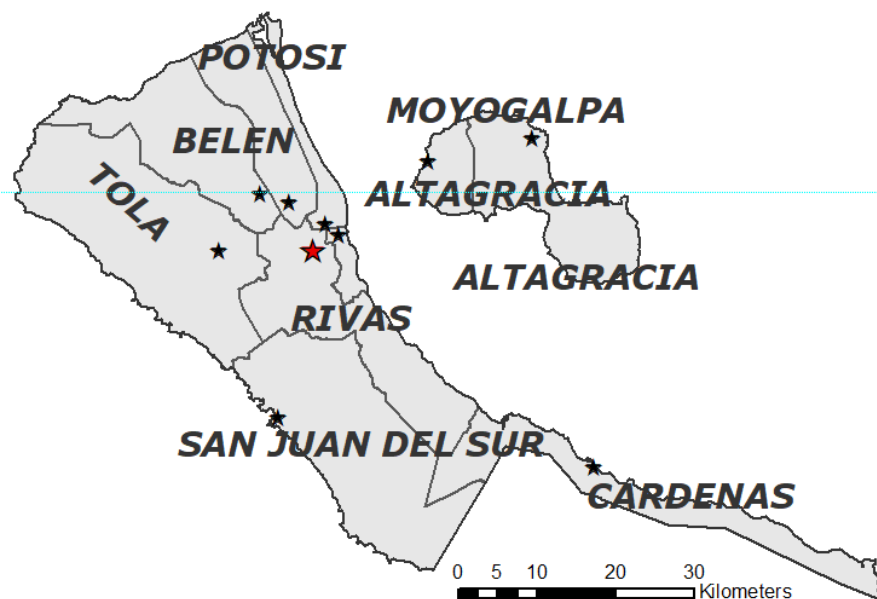
Department Capital: Rivas

Area: 2,162 km²

Rivas is located in the isthmus that separates Lake Nicaragua and the Pacific Ocean. It is well known for the beaches of San Juan del Sur and the volcanic island of Ometepe.



| Municipality | Population |
|------------------|------------|
| Tola | 23,350 |
| Belén | 18,330 |
| Potosí | 13,163 |
| Buenos Aires | 5,703 |
| Moyogalpa | 10,330 |
| Altagracia | 22,455 |
| San Jorge | 8,792 |
| Rivas | 48,014 |
| San Juan del Sur | 15,733 |
| Cárdenas | 7,501 |



**Multi-Hazard Risk Rank:
Medium (11 of 17)**

**Lack of Resilience Rank:
Low (10 of 17)**

RVA Component Scores

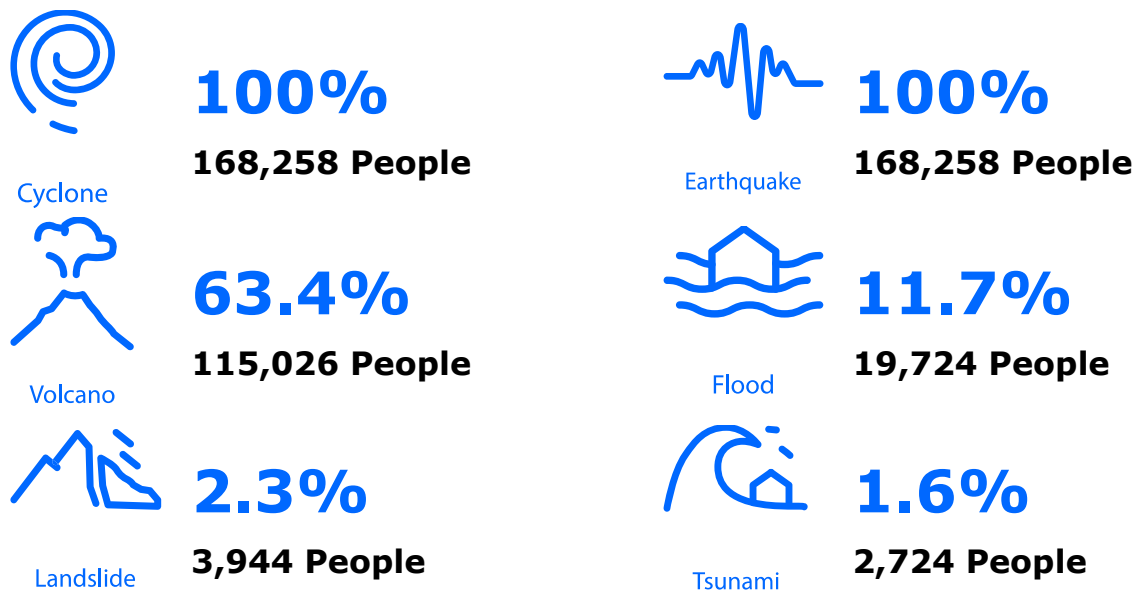
Table 1. Department scores and ranks (compared across departments) for each index

| Multi-Hazard Risk | | Lack of Resilience | | Multi-Hazard Exposure | | Vulnerability | | Coping Capacity | |
|-------------------|--------------|--------------------|--------------|-----------------------|--------------|---------------|--------------|-----------------|--------------|
| Medium | | Low | | Medium | | Low | | Medium | |
| Score | Rank (of 17) | Score | Rank (of 17) | Score | Rank (of 17) | Score | Rank (of 17) | Score | Rank (of 17) |
| 0.469 | 11 | 0.413 | 10 | 0.580 | 7 | 0.354 | 10 | 0.527 | 8 |

Multi-Hazard Exposure (MHE)

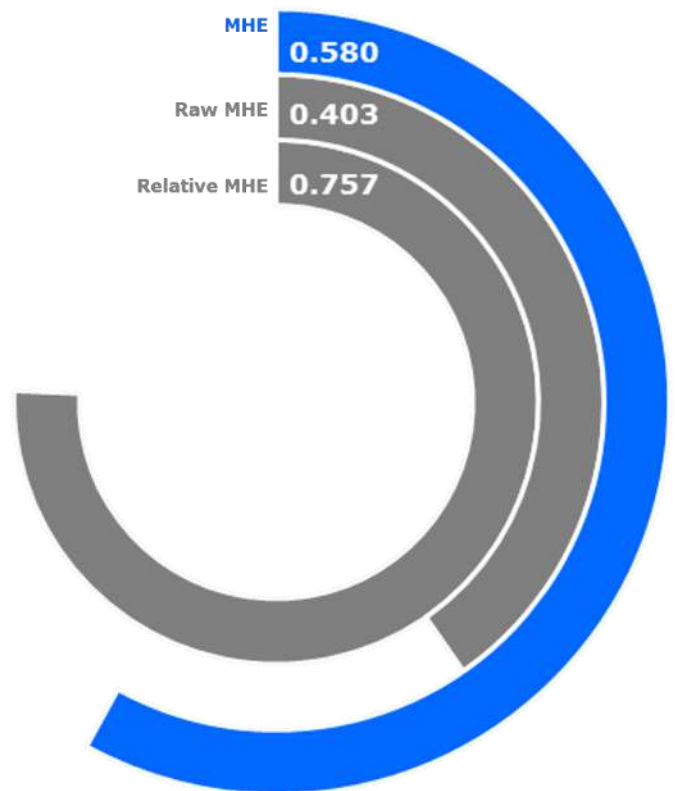
Multi-Hazard Exposure¹ Rank: 7 of 17 Departments (Score: 0.580)

Table 2. Estimated ambient population² exposed to each hazard



Case Study: Rivas CODEPRED

Riva's CODEPRED follows an open participation model that helps to make the population aware of all hazards. Development of a prevention and preparedness culture over the last 10 years has helped to overcome the challenged that a lack of infrastructure and coping capacity presents. Exercises are conducted every 2-3 months and community level family plans are in development to build capacity from the ground up.



¹ Multi-Hazard Exposure: Average exposure of the population to hazards.

² Ambient Population: 24-hour average estimate of the population in each department. Ambient population typically differs from census population.

Vulnerability (V)

Vulnerability³ Rank: 10 of 17 Departments (Score: 0.354) Vulnerability in Rivas is primarily driven by Environmental Stress and Clean Water Vulnerability. The bar chart on the right indicates the socioeconomic themes contributing to the department's overall Vulnerability score.

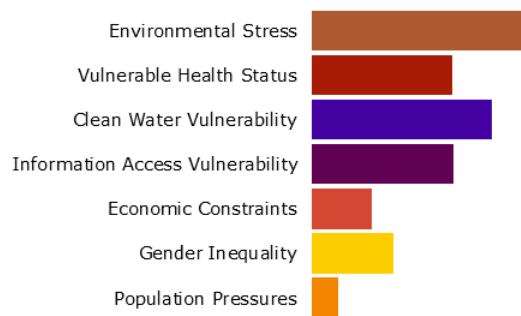









Table 3. Component scores for each vulnerability sub-component

| | | | | | | | |
|---|---|--|--|--|---|---------------------------------------|--|
|  | Environmental Stress | 89.7% Province at Drought Risk | 41.5% Erosion Risk | 81.4 Livestock per km ² | | | |
|  | Vulnerable Health Status | 12.2 Infant Mortality Rate | 27.0 Maternal Mortality Rate | 73.7 Average Life Expectancy | 0.7% Acute Malnutrition (Children <5) | 3.3% Population Disabled | |
|  | Clean Water Vulnerability | 61.1% Households with Access to Improved Water | 25.7% Households with Access to Flush Toilets | | | | |
|  | Information Access Vulnerability | 16.4% Illiteracy | 6.1 yrs Average Years of Schooling | 88.6% Primary School Enrollment | 96.9% Households without Internet | 14.8% Households without TV | 67.3% Households without Radio |
|  | Economic Constraints | 51.5 Economic Dependency Ratio | 60.5% Population in Poverty | | | | |
|  | Gender Inequality | 45.0% Female Seats in Government | 1.13 Female to Male Secondary Education Enrollment | 0.39 Female to Male Labor Ratio | | | |
|  | Population Pressures | 1.37% Average Annual Population Change | 1.79% Average Annual Urban Population Change | | | | |

³ **Vulnerability:** The socioeconomic conditions that are associated with the susceptibility to disruptions in a country's normal functions.

Coping Capacity (CC)

Coping Capacity⁴ Rank: 8 of 17 Departments (Score: 0.527) Rivas exhibits weaker Coping Capacity in the areas of Environmental Capacity and Governance. The bar chart on the right indicates the socioeconomic themes contributing to the department's overall Coping Capacity score.

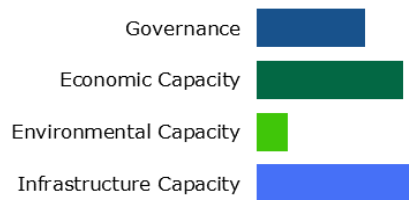


Table 4. Component scores for each coping capacity sub-component

| | | | | | | | |
|--|--------------------------------|--|---|---|--|---|--|
| | Economic Capacity | 9.1% Households that Receive Remittances | 87.1% Employment Rate (Male) | 52.8% Employment Rate (Female) | 16.1% Population in Highest Welfare Quintile | \$2357 Annual Nominal Global Revenue per Capita | |
| | Governance | 90.3% Crime Complaints Cleared | 1592.3 Crime Rate per 100k Persons | 79.1% Households without Garbage Collection | 66.6% Voter Participation (2016 Election) | | |
| | Environmental Capacity | 10.5% Protected or Reforested Land | | | | | |
| | Infrastructure Capacity | | | | | | |
| | Health Care Capacity | | 12.1 Hospital Beds per 10,000 Persons | 21.6 Nurses per 10,000 Persons | 10.0 Physicians per 10,000 Persons | 14.9 km Average Distance to Nearest Hospital | 91.2% Children Completed Immunization Schedule |
| | Communications Capacity | | 6.6% Households with Access to Fixed Phone Line | 78.7% Households with Access to Mobile Phone | | | |
| | Transportation Capacity | | 15.9 km Average Distance to Nearest Port or Airport | 0.45 km Total Length of Road per km ² (area) | | | |

⁴ Coping Capacity: The systems, means, and abilities of a country to absorb and respond to events that could potentially disrupt normal function.

Lack of Resilience (LR)

Lack of Resilience⁵ Rank: 10 of 17 Departments (Score: 0.413)

Rivas' score and ranking are due to low Vulnerability combined with medium Coping Capacity scores.

Table 5. The three thematic areas with the weakest relative scores



Environmental Stress



Governance



Environmental Capacity

Multi-Hazard Risk (MHR)

Multi-Hazard Risk⁶ Rank: 11 of 17 Departments (Score: 0.469)

Rivas' score and ranking are due to medium Multi-Hazard Exposure combined with low Vulnerability and medium Coping Capacity scores.

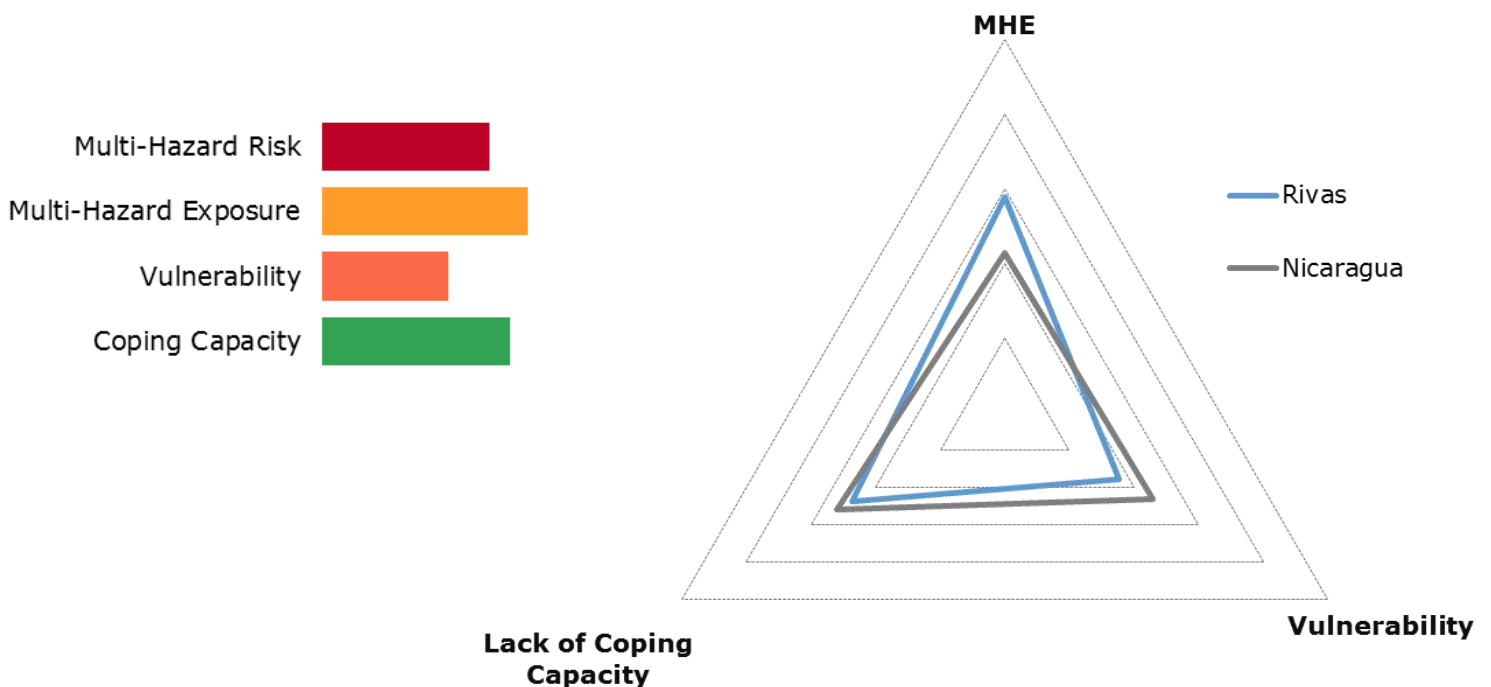


Figure 1. Department Multi-Hazard Risk component scores compared to overall average country scores

⁵ **Lack of Resilience:** The susceptibility to impact from the short-term inability to absorb, respond to, and recover from disruptions to a country's normal function. This index provides a hazard-independent look at current socioeconomic conditions.

⁶ **Multi-Hazard Risk:** The likelihood of losses or disruptions to a country's normal function due to interaction between multi-hazard exposure, socioeconomic vulnerability, and coping capacity.

Successes



Low economic constraints

Ranked 14 of 17 departments, low economic constraints indicate that Rivas may be able to invest in additional mitigation and preparedness measures at the local and community level.



Very low population pressures

Ranked 16 of 17 departments, limited population change allows disaster managers to form accurate evacuation, sheltering, and resource plans.



High health care capacity

Ranked 3 of 17 departments, high health care capacity indicates that the population will have access to healthcare services before, during, and after a disaster.

Recommendations

01

Reduce environmental stress

Invest in drought- and erosion-mitigation projects to reduce environmental stress and degradation.

02

Improve governance

Provide additional support for local police, firefighters, and emergency medical resources to improve public safety and reduce crime rates. In addition, seek partnerships with the private sector to increase the provision of services, such as garbage collection.



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