

# Environmental Sustainability Report

Generated Report for Ahmedabad, Nirma University



Factor	Value	Score	Explanation
Air Quality Index (AQI)		8.33	Low pollution, good for sustainability
Temperature	30.03°C	10	Ideal temperature range
Humidity	58%	7	Slightly elevated

Soil Type	None	10	Loam is ideal for agriculture
Flood Risk	1	9	Low flood risk
Seismic Activity	0.2994979797979797	8	Moderate risk, manageable
Wind Patterns	10 m/s	9	Moderate wind speeds

Environmental Sustainability Report for AhemedaBas, Nirma University

Introduction

This report assesses the environmental sustainability of the area surrounding Nirma University in Ahmedabad, based on several key environmental indicators and the Environmental Sustainability Score (ESS).

Environmental Data

- Air Quality Index: 3 (excellent)
- Temperature: 30.03°C (optimal)
- Humidity: 58% (slightly elevated)
- Soil Type: Not provided
- Flood Risk: 1 (very high)
- Seismic Activity: 0.299497 (moderate)
- Wind Patterns: 10 m/s (moderate)

Environmental Sustainability Score (ESS)

The ESS is 64.79939520202021, indicating an overall good level of environmental sustainability for the area.

## Strengths and Weaknesses

### Strengths:

Excellent air quality

Optimal temperature range

Moderate wind speeds

### Weaknesses:

Elevated humidity

Very high flood risk

Moderate seismic activity

## Environmental Factors Contributing to the ESS

Air Quality (25%): The low AQI contributes significantly to the high ESS.

Temperature (15%): The optimal temperature range supports a balanced ecosystem.

Humidity (10%): While slightly elevated, the humidity level is within an acceptable range.

Flood Risk (15%): The high flood risk significantly lowers the ESS, indicating a need for mitigation measures.

Seismic Activity (10%): The moderate seismic activity poses some risk but is not a major concern.

Wind Patterns (15%): The moderate wind speeds positively impact the ESS, ensuring stable weather conditions.

Soil Type (10%): No data provided, but certain soil types can enhance agricultural productivity and contribute to environmental sustainability.

## Recommendations for Improving the Sustainability Score

**Manage Flood Risk:** Implement flood prevention measures such as dykes, levees, and wetlands to reduce flood risk.

**Control Soil Erosion:** Implement erosion control measures to prevent soil degradation and preserve soil fertility.

**Promote Sustainable Agriculture:** Encourage the use of environmentally friendly farming practices to minimize soil degradation and water pollution.

**Conserve Energy:** Implement energy efficiency measures and promote renewable energy sources to reduce carbon emissions.

**Control Air Pollution:** Reduce air pollution by implementing emission controls on vehicles and industries.

**Enhance Green Infrastructure:** Plant trees, create parks, and protect natural habitats to improve air quality and provide flood control.

## Implications of the ESS for Long-Term Sustainability

A high ESS indicates that an area has good environmental resilience and adaptive capacity to climate change. It also signifies the potential for sustainable development, where economic growth is balanced with environmental conservation.

In the case of AhemedaBas, Nirma University, while the current ESS is satisfactory, there is room for improvement, especially in managing flood risk. By implementing the recommended measures, the area can enhance its sustainability score and ensure long-term environmental stability.