Environmental Sustainability Report

Generated Report for Ahmedabad, Nirma University

Factor	Value	Score	Explanation
Air Quality Index (AQI)	3	8.33	Low pollution, good for sustainability
Temperature	32.01°C	10	Ideal temperature range
Humidity	48%	7	Slightly elevated

Soil Type	None	10	Loam is ideal for agriculture
Flood Risk	1	9	Low flood risk
Seismic Activity	0.3067707070707071	8	Moderate risk, manageable
Wind Patterns	10 m/s	9	Moderate wind speeds

Environmental Sustainability Report

Location: AhemedaBad, Nirma University

Environmental Data:

Air Quality Index (AQI): 3

Temperature: 32.01°C

Humidity: 48%

Soil Type: Not specified

Flood Risk: 1

Seismic Activity: 0.3067707070707071

Wind Patterns: 10 m/s

Environmental Sustainability Score (ESS):

64.95541792929293

Key Strengths:

Good air quality (AQI of 3 on a scale of 0-500)

Moderate temperature within the ideal range

Moderate wind patterns

Low seismic activity

Key Weaknesses:

High flood risk

Insufficient data on soil type

Humidity slightly below the ideal value

ESS Components:

Air Quality (25%): The low AQI indicates good air quality, which is a significant strength.

Temperature (15%): The temperature is within the ideal range, contributing positively to the score.

Humidity (10%): The humidity is slightly below the ideal value, which slightly lowers the score.

Flood Risk (15%): The high flood risk is a major weakness and significantly lowers the score.

Seismic Activity (10%): The low seismic activity is a strength that contributes to the score.

Wind Patterns (15%): The moderate wind patterns are beneficial and contribute to the score.

Soil Type (10%): The lack of data on soil type prevents a proper assessment of this factor, but it is generally a crucial element for environmental sustainability.

Recommendations for Improving ESS:

Air Quality: Maintain good air quality by reducing air pollution from vehicles and industries.

Temperature: Monitor temperature trends and mitigate urban heat island effects through tree planting and green infrastructure.

Humidity: Implement measures to maintain humidity levels closer to 50%, such as increasing green spaces and introducing water features.

Flood Risk: Develop and implement flood management plans, including infrastructure improvements and floodplain restrictions.

Seismic Activity: Continue monitoring and assess vulnerabilities to improve preparedness and mitigation measures.

Wind Patterns: Encourage wind-powered energy generation and maintain wind patterns by preserving wind corridors.

Soil Type: Conduct soil surveys to identify soil types and implement appropriate land management practices to enhance agricultural productivity and soil health.

ESS Implications:

A high ESS indicates a high degree of environmental resilience, stability, and the potential for sustainable development. The ESS of 64.95 for this area suggests the overall environmental sustainability is moderate, with strengths and areas for improvement. By addressing the weaknesses, such as flood risk and humidity levels, it is possible to enhance the sustainability of the area over the long term, making it more resilient to climate change and supporting sustainable development.