SDG Problem Definition Document: SDG 6 - Clean Water and Sanitation

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Project Title: Enhancing Access to Clean Water in Rural Communities

Introduction

Access to clean and safe water is a fundamental human right and a core part of Sustainable Development Goal 6 (SDG 6) – Clean Water and Sanitation. Despite global progress, millions of people in rural communities around the world still lack access to safe drinking water. These deficiencies in water access significantly contribute to public health crises, food insecurity, and hinder economic development.

This project aims to address the clean water access gap in rural areas through a data-driven approach, identifying regions with limited water access and proposing targeted interventions to improve clean water availability.

Problem Statement

In rural communities, access to clean water is often unreliable due to limited infrastructure, environmental challenges, and socio-economic factors. The lack of piped water systems and inadequate water treatment facilities exacerbates the issue. As a result, rural populations face the risk of consuming contaminated water, leading to waterborne diseases and poor health outcomes.

The specific problem this project addresses is **how to identify and prioritize rural regions that lack adequate clean water access**. By leveraging data, the goal is to highlight areas where intervention is needed most and recommend sustainable solutions to improve water access and sanitation.

Importance of Addressing the Problem

- **Health Risks**: Waterborne diseases like cholera and diarrhea are prevalent in areas without clean water access, particularly in children.
- **Economic Impact**: Women and children often bear the burden of water collection, which limits their educational and economic opportunities.

- **SDG 6 Alignment**: Improving access to clean water is essential for achieving SDG 6, which targets ensuring availability and sustainable management of water and sanitation for all.

Data-Driven Approach

Data on regional water sources, infrastructure, and socio-economic indicators will be collected and analyzed to:

1. Identify regions with low access to clean water.
2. Examine infrastructure deficits (e.g., lack of piped water systems and treatment facilities).
3. Analyze the correlation between water access and socio-economic factors, such as income and education levels.

Objective of the Project

This project seeks to use data to:

- Analyze the water access landscape in rural communities.
- Understand the socio-economic and infrastructural factors contributing to water scarcity.
- Provide actionable insights to local governments and non-profits to improve clean water access in underserved regions.

Conclusion

Achieving clean water access for all requires both innovative solutions and targeted interventions. This project will help highlight key areas for improvement by providing a clear data-driven understanding of water access gaps in rural communities, in alignment with the global goals of SDG 6.