**SDG 6: CLEAN WATER AND SANITATION**

**Problem Definition: Lack of access to clean drinking water in a Natural Disaster-Stricken Village in Southern Tanzania.**

1. **Background**:

* **Geographical Focus**: The project will focus on a village in the southern part of Tanzania that has recently been struck by a natural disaster, such as a flood, which has compromised access to clean drinking water.
* **Impact of the Disaster**: The natural disaster damaged water infrastructure, contaminated water sources and disrupted the regular supply of drinking water. The village, already vulnerable due to its rural location now faces severe challenges in accessing safe drinking water.

1. **Specific Problem:**

* **Water Source Contamination**: Floodwaters introduced pollutants including sewerage, agricultural runoff and debris into the village’s primary water sources (wells and river) leading to a significant increase in waterborne diseases.
* **Damaged Infrastructure**: The disaster damaged water distribution systems such pipelines and storage tanks leading to leaks and inefficiencies that further reduce water availability.
* **Maintenance Challenges**: Limited resources and the immediate aftermath of the disaster have made it difficult to repair and maintain the water infrastructure thereby prolonging the village’s water crisis

1. **Scope of the Project:**

* **Village Profile**: The village is a small rural community with a population of about 5000 people and it relies on a few key water sources that are shared amongst the community.
* **Data Collection**:
* **Water Quality Data**: Regular testing of the village’s water sources to monitor contamination levels including bacteria, chemicals and turbidity.
* **Water Distribution Date**: Monitoring the flow and availability of water to different parts of the village and identifying areas with severe shortages.
* **Maintenance Data**: Tracking repairs and maintenance efforts on damaged infrastructure noting the types of repairs, time taken and remaining issues.

1. **Objectives of the Project:**

* **Objective One**: To design a database that can effectively store and manage data related to water sources, quality, distribution and infrastructure maintenance in the village.
* **Objective Two**: To use MySQL queries to retrieve and analyze data, identifying key areas where water quality is most compromised and where distribution inefficiencies are greatest.
* **Objective Three**: To develop an interactive Excel dashboard that visualizes critical data helping local authorities, NGOs and AID organizations make informed decisions about resource allocation and emergency interventions.

1. **Potential Impact:**

* **Health Improvement**: By focusing on improving water quality, the project aims to reduce the incidence of waterborne diseases particularly in vulnerable groups like children, the disabled and the elderly.
* **Emergency Response Optimization**: The project will help prioritize areas for immediate intervention ensuring that repairs and maintenance are conducted where they are most needed.
* **Long-Term Sustainability**: The insights gained from the data will contribute to more sustainable water management practices in the village thereby reducing the risk of future water crises in the event of another disaster