**Part 1: SDG Selection and Problem Definition**

**SDG Selection:**

* **SDG 6: Clean Water and Sanitation** focuses on ensuring availability and sustainable management of water and sanitation for all.

**Problem Definition:**

* **Problem:** **Tracking and improving the quality and maintenance of water sources** in different villages to ensure clean water access for communities.

**Part 2: Database Design**

**ERD (Entity-Relationship Diagram):**

Entities to include:

1. **Villages** - Information about different villages.
2. **WaterSources** - Details about water sources in each village.
3. **WaterQuality** - Records of water quality tests.
4. **MaintenanceRecords** - Logs of maintenance activities performed on water sources.
5. **CommunityPopulation** - Population data for each village.

**Relationships:**

* A **Village** can have multiple **WaterSources**.
* Each **WaterSource** can have multiple **WaterQuality** records.
* Each **WaterSource** can have multiple **MaintenanceRecords**.
* Each **Village** has associated **CommunityPopulation** data.