**PHASE 3(Detailed Logical Data Model)**

1. **Entities**

**Farm Locations:** Stores each farm's details, such as address, type, and size.

Crops: Includes information about each crop type, planting dates, expected harvest times, and specific care needs.

**Workforce:** Contains data on workers (volunteers and employees), including tasks, hours worked, and skills.

**Harvest Records:** Tracks details of each harvest, including produce amounts and distribution (e.g., donated, sold).

**Inventory and Resources:** Manages supplies like seeds, fertilizers, and tools, along with supplier information and costs.

**Attributes**

**Farm Locations** will include attributes like Location\_ID, Address, Type, Size, Sunlight\_Availability, and Water\_Sources.

**Crops** will include Crop\_ID, Farm\_ID, Crop\_Type, Planting\_Date, Expected\_Harvest\_Date, and Care\_Requirements.

**Workforce** will include Worker\_ID, Name, Role, Tasks\_Assigned, Hours\_Worked, and Special\_Skills.

**Relationships between the entities**

* A farm location can have multiple crops.
* Each crop is associated with one farm location.
* Workers can be assigned to multiple farms or specific tasks on a farm.

**2. Keys and Constraints**

**Primary Keys:** We assigned a unique identifier for each entity to ensure database integrity, such as Location\_ID for Farm Locations and Crop\_ID for Crops.

**Foreign Keys:** Define foreign keys to establish relationships. For instance, Farm\_ID in the Crops table can serve as a foreign key linking to Location\_ID in the Farm Locations table.

**Constraints**

* NOT NULL for essential fields
* UNIQUE for fields that should not have duplicate values (e.g., Worker\_ID).

1. **ER DIAGRAM**

