**Dashboard Development in Tableau**

**Title:** GEO- BI visualization

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**Tool Used:** Tableau Public / Tableau Desktop

**Step-by-Step to Create a Tableau Dashboard:**

**Step 1: Prepare the Dataset**

dataset has:

* **Geographic fields** (Latitude, Longitude or Polygon geometry for shape layers)
* **Crop details** (e.g., Crop Type, Harvest Date, Farmer Name, Area, Road Quality, etc.)
* **Date field** (e.g., Harvesting Date)

**🗺️ Step 2: Load the Geospatial Data**

1. Open **Tableau Desktop or Public**.
2. Go to **Data → Connect to Data → Spatial File** if you have a shapefile (.shp), or **Excel/CSV** in using point-based geolocation.
3. Tableau will automatically recognize the geometry (for maps) shapefiles or latitude/longitude.

**Step 3: Create Parameters**

1. **Right-click in the Data pane > Create > Parameter**
   * Name: Crop Filter
   * Data Type: String
   * Allowable Values: List (Manually enter crop names: GRASS, WHEAT, COTTON, etc.)
2. **Create a calculated field** like this:

IF [Cropsa 23] = [Crop Filter] THEN 1 ELSE 0 END

1. Add this field to **Filters** and select value 1.

This will dynamically filter the view based on the selected crop in the parameter.

**Step 4: Design the Map**

1. Drag your geometry or latitude/longitude onto the canvas.
2. Drag fields like **Cropsa 23** to **Color**, **Tooltip**, or **Detail**.
3. Enable **Map background** → "Satellite" via **Map > Background Maps > Satellite** .

**Step 5: Add Tooltip Details**

1. Click on **Tooltip** in map sheet.
2. Insert dynamic text:

Crop: <Cropsa 23>

ID: <ID>

Name: <Name>

Road Quality: <Road Quali>

Harvest Date: <Day of Date Ha23>

1. Format using **bold or color** for clarity.

**Step 6: Create a Dashboard**

1. Create a **new Dashboard**.
2. Drag the map sheet onto the canvas.
3. Add **parameter control** by dragging it from the **Parameters pane**.
4. Add additional sheets/tabs like:
   * Present Sown Crops
   * Harvesting Date
   * Irrigation Type

Use **navigation buttons** or **filter actions** to switch between views.

**Step 7: Polish**

* Adjust layout containers for alignment.
* Use **legends** and **dropdown filters**.
* Format titles and fonts.
* Save and **publish to Tableau Pu**blic

**Step 8 : Publish**

* Go to **File > Save to Tableau Public**
* Log in and publish your dashboard.

**ADVANTAGES OF TABLEAU vs. POWER BI**

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| --- | --- | --- |
| **Feature** | **Tableau Dashboard** | **Power BI Dashboard** |
| **Great for Maps & Spatial Data** | Perfect for showing farm plots, village maps, and crop locations with visual clarity. | Works for simple maps but not ideal for detailed geospatial analysis. |
| **Interactivity** | Very interactive – lets you click, filter, and explore easily. | Offers good interactivity for charts and summaries. |
| **Beautiful Visuals** | Dashboards are visually appealing and easy to understand at a glance. | Clean and neat visuals, great for business-style charts. |
| **Easy Online Sharing** | Dashboards can be published on the web and accessed by anyone. | Web publishing wasn’t used in the project, but it’s possible with extra setup. |
| **Insightful Summaries** | Helps tell a story with maps, crop cycles, and patterns. | Quick to build comparison charts – great for month-to-month or seasonal summaries. |
| **User-Friendly Design** | Once set up, very intuitive for exploring farming trends. | Easy for beginners to create simple reports and overviews. |