

Data Analytics In Real Life: Planning A Home Vegetable Garden

Introduction:

Data Analytics is the process of examining raw data to derive insights and make informed decisions. This project showcases how data analytics can be applied in planning and maintaining a home vegetable garden, an activity that promotes health, sustainability, and cost-effectiveness. The six-step data analytics process—Plan, Prepare, Process, Analyse, Share, Act—is used to demonstrate the systematic approach to setting up a garden.

Plan:

Key Questions:

1. What vegetables should I grow?
2. How much space and sunlight are available?
3. What is my budget for seeds, tools, and other resources?

Goals:

1. Grow 5 types of vegetables.
2. Utilize balcony space efficiently.
3. Keep the budget under INR 2,000.

Prepare:

Data Collection

1. **Climate suitability:** Research vegetables suitable for the local climate.
2. **Planting seasons:** Identify the best time to plant each vegetable.
3. **Space and sunlight:** Measure the garden space and hours of sunlight.
4. **Budget allocation:** Seeds: INR 500 , Soil: INR 800 , Tools: INR 700

Example Data:

- **Spinach (Palak):** Thrives in partial sunlight, 15-20 days to harvest.
- **Tomatoes:** Requires full sunlight, 60-80 days to harvest.
- **Carrots:** Prefers cooler temperatures, 60-70 days to harvest.

Other vegetables that can be considered:

- **Fenugreek (Methi):** Easy to grow; suitable for small spaces.
- **Coriander (Dhaniya):** Requires moderate sunlight and regular watering.
- **Mint (Pudina):** Thrives in moist and humid conditions.
- **Chilies:** Ideal for tropical climates and easy to grow in pots.

- **Okra (Bhindi):** Perfect for warm and humid climates; grows quickly.
- **Beetroot:** Thrives in partial shade; requires well-drained soil.
- **Bottle Gourd (Lauki):** Grows well in the monsoon; needs space to climb.
- **Drumstick (Moringa):** Requires minimal care and thrives in warm weather.

Process:

Organize Data

1. Categorize vegetables by sunlight requirements and growth cycles.
2. Map available gardening zone to optimize space.
3. Create a timeline for planting and harvesting.

Example

Vegetable	Space Needed	Sunlight Hours	Days To Harvest	Cost(INR)
Spinach	1 sq. ft	4-6 hrs	20	50
Tomatoes	2 sq. ft	6-8 hrs	80	100
Carrots	1 sq. ft	4-6 hrs	70	70

Garden Layout

Allocate sunniest areas for tomatoes and shaded areas for spinach and carrots.

Analyse:

Insights Derived:

- Spinach and carrots are ideal for limited space and partial sunlight.
- Tomatoes require the balcony's sunniest spot.
- Growing from seeds is cost-effective compared to buying seedlings.

Decision:

Choose spinach, tomatoes, carrots, okra, and coriander to maximize yield and variety.

Visualizations:

- Use a bar graph to compare vegetable costs vs. yields.
- Heatmap showing sunlight distribution across the garden.

Share:

Communication Plan:

- Share the garden layout and planting schedule with family members for input and support.
- Use tools like WhatsApp or a simple presentation to communicate the plan.
- Divide responsibilities among family members.

Act:

Implementation Steps:

1. Purchase seeds, soil, and tools.
2. Prepare soil and plant seeds as per the layout.
3. Monitor growth daily, water regularly, and check for pests.

Example Timeline

Week	Activity
1	Prepare soil and plant spinach
2	Plant tomatoes and carrots
4	Harvest spinach
10	Harvest tomatoes and carrots

Conclusion:

Key Takeaways:

- Data Analytics Process ensures efficient gardening by optimizing space, cost, and yield.
- Applying structured decision-making enhances productivity in personal projects.

Final Reflection:

A data-driven approach makes gardening accessible, enjoyable, and rewarding. The same process can be scaled for larger gardens or community projects.

