

RAINWATER HARVESTING

"From Drops to Harvest: Analyzing Rainfall Patterns
and Unlocking the Power of Rainwater Harvesting
for a Sustainable Future"

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Why is it important ?

"Through meticulous rainfall analysis, I've uncovered pressing water scarcity issues. Rainwater harvesting emerges as a practical and empowering solution, mitigating shortages, promoting resilience, and nurturing ecosystems. Let's unite to secure a sustainable water future, safeguarding generations to come."





Proposed Solutions

Solution # 1

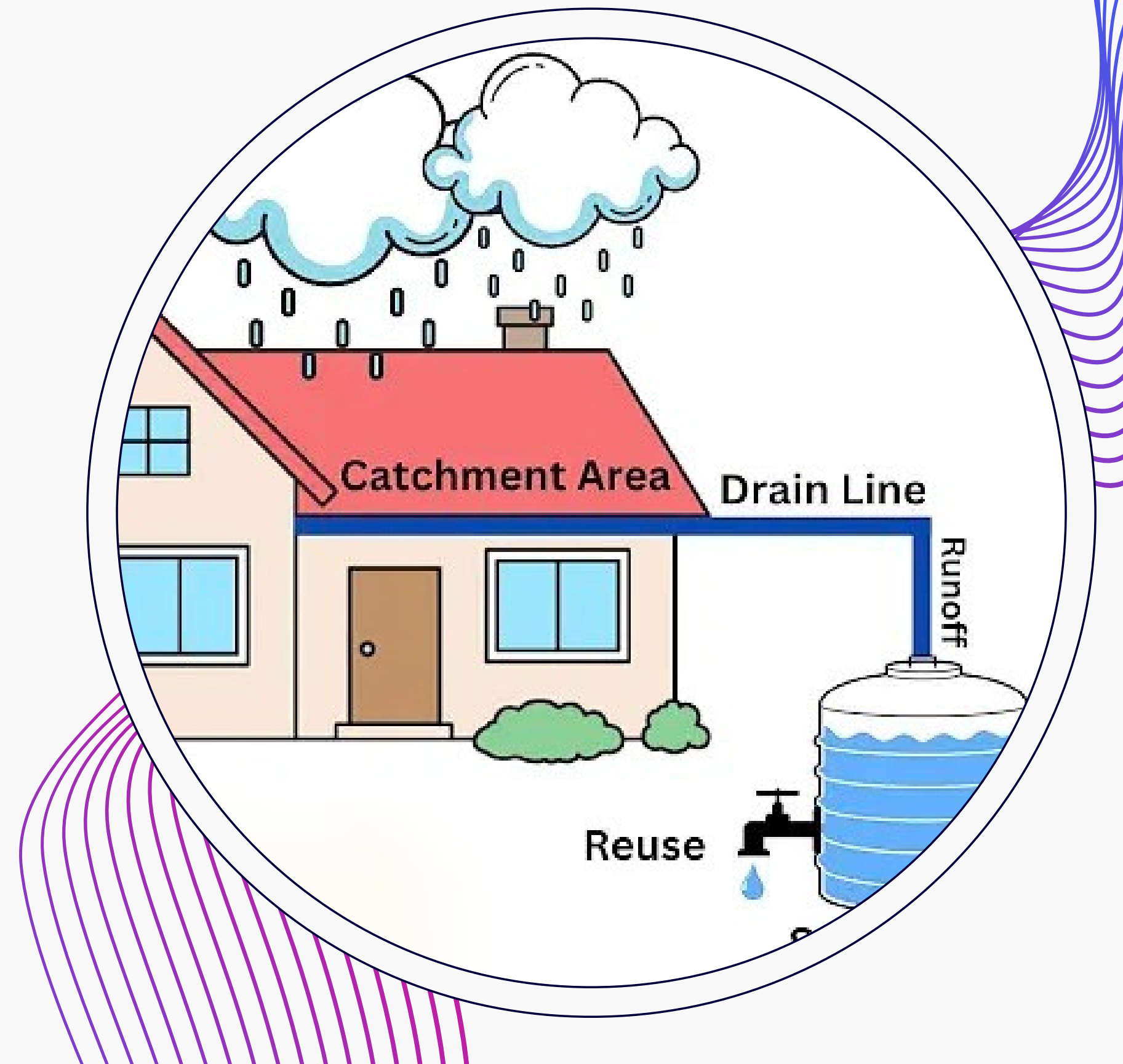
Small Scale Conservation

Solution # 2

Affordable Rainwater Harvesting

Solution # 3

Making it IOT Device



Objectives

India receives an average annual rainfall of 1,180 mm according to annual data from the Meteorological Department. Only 8% of rainwater is harvested in India.

1180 MM

Rainfall

70%

CAN BE SAVED

Proposed Benefits

Water conservation: Rainwater harvesting helps reduce the demand for freshwater from traditional sources, such as rivers, lakes, and underground aquifers. This can be especially beneficial in areas facing water scarcity or experiencing droughts.

Cost savings: Harvesting rainwater can lead to reduced water bills, as the collected water can supplement or replace the need for municipal or groundwater sources. It can also save energy and costs associated with water treatment and distribution.

Environmental sustainability: By capturing rainwater, less stormwater runoff occurs, which reduces soil erosion and the risk of flooding. It also helps recharge groundwater and preserves local water resources.

Self-sufficiency: Rainwater harvesting provides a decentralized water source, allowing individuals and communities to become more self-reliant during water shortages or emergencies.

Improved plant health: Rainwater is naturally soft and free from chemicals, making it beneficial for irrigation. Plants tend to thrive when watered with rainwater, as it contains essential nutrients and has a neutral pH.

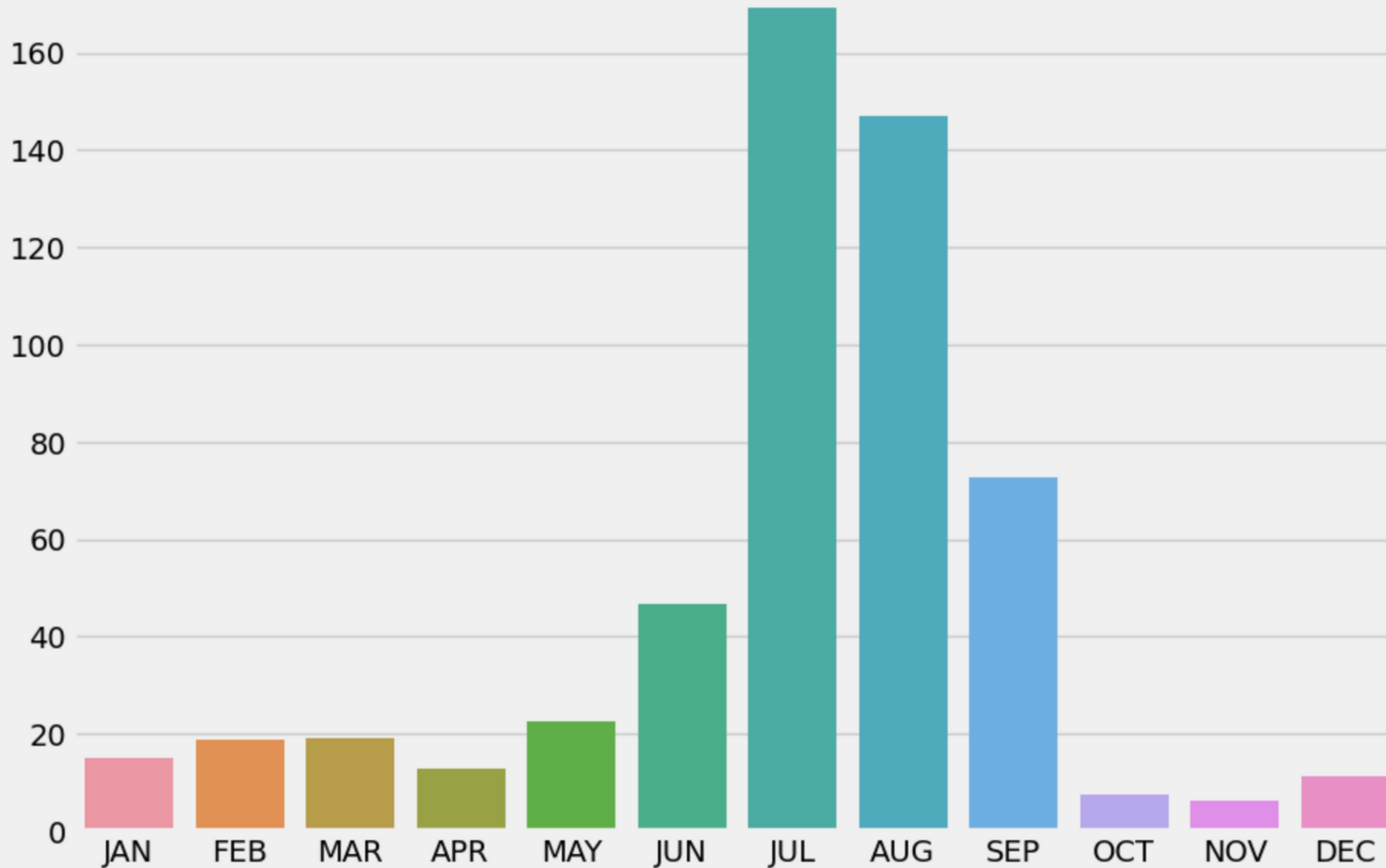


Case Studies

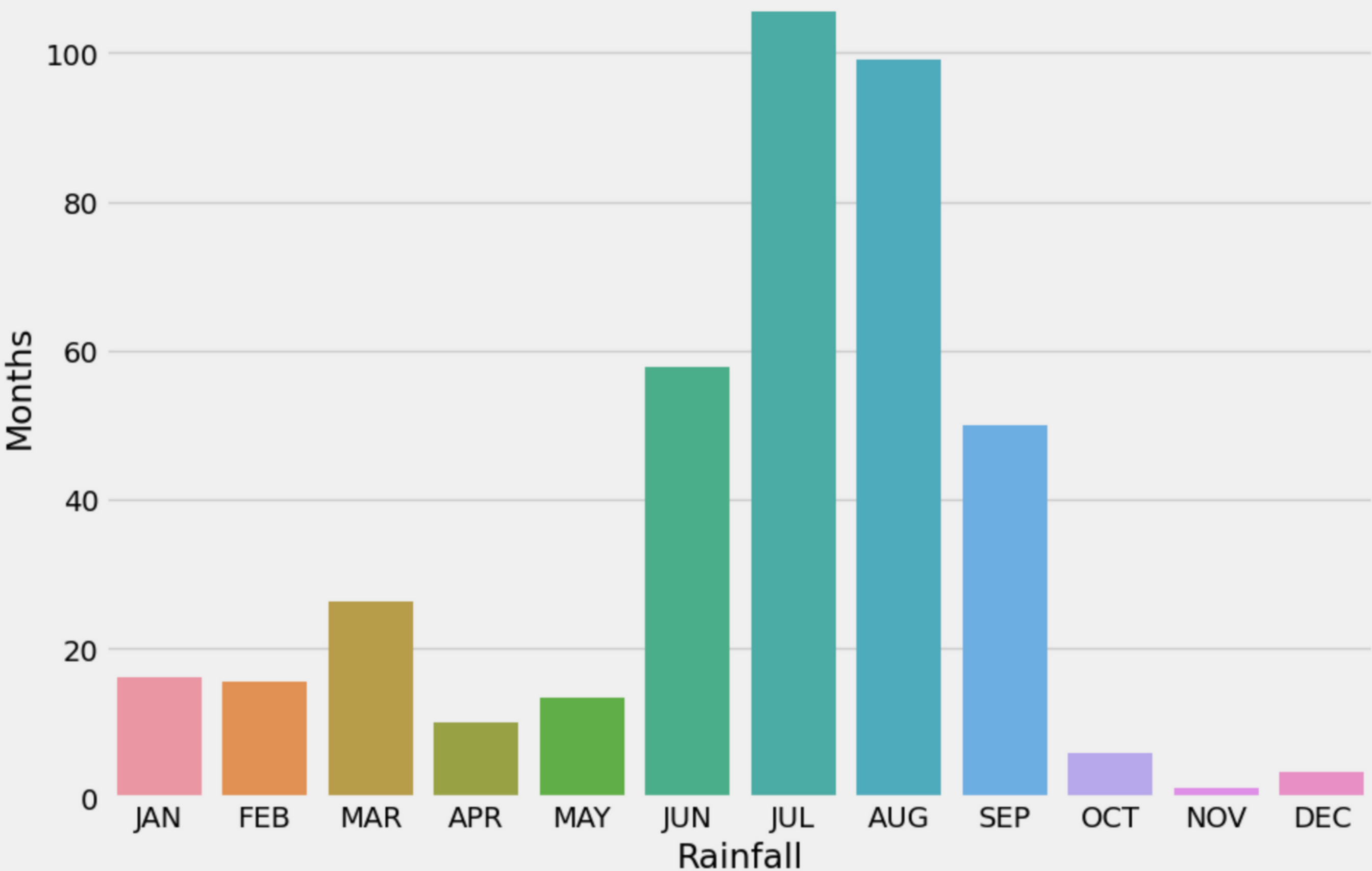
RWH in Alappuzha, Kerala: Alappuzha, a town in Kerala, implemented a comprehensive rainwater harvesting program in 2002. The initiative involved constructing rooftop rainwater harvesting structures, recharge pits, and ponds. As a result, the town has seen a significant increase in groundwater levels, reduced water scarcity, and improved water quality.

RWH in Ralegan Siddhi, Maharashtra: Ralegan Siddhi, a village in Maharashtra, transformed from a drought-prone region to a model for sustainable water management. The renowned social activist Anna Hazare spearheaded the initiative. The village implemented various rainwater harvesting techniques, including rooftop catchment systems, percolation tanks, and check dams. These efforts have led to a substantial increase in groundwater levels and ensured year-round water availability for the community.

Average Rainfall Data of Haryana Delhi & Chandigarh from 1980-1990



Average rainfall of Haryana Delhi & Chandigarh region in last five years(2013-2017)



Process to Learn

- **Collection:** Rainwater is collected from rooftops, catchment areas, or other surfaces where rain falls. The collection surface is designed to direct the water toward a storage system, such as a tank or a reservoir.
- **Filtration:** Before storing the rainwater, it is important to filter out any debris, leaves, or other contaminants. This can be achieved through various filtration methods, such as mesh screens, gravel filters, or sedimentation tanks.
- **Storage:** Once the rainwater is filtered, it is stored in tanks, barrels, cisterns, or underground reservoirs. The storage capacity depends on the intended use and the amount of rainfall in the area.
- **Purification (optional):** If the harvested rainwater is intended for potable use, additional purification steps may be required. This can involve treating the water with disinfectants or using more advanced filtration systems.
- **Distribution and use:** The stored rainwater can be used for a variety of purposes, including irrigation, flushing toilets, washing clothes, or even drinking water, depending on the level of treatment and purification. Proper plumbing systems or pumps may be needed to distribute the harvested rainwater to different areas.

Some Techniques



Thankyou

