# Assessing Domestic Water Consumption and Water Conservation Behaviors in Ada, Oklahoma

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**Oklahoma Clean Lakes and Watersheds Conference**

**27th Annual Conference**

**Stillwater, Oklahoma**

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“We never know the worth of water till the well is dry.”

- Thomas Fuller

Pictures are from UNICEF web page

# Introduction:

Water

- Essential to life
- Important for Economic Growth and Development of a place

Domestic Water Consumption-

- Indoor uses
- Outdoor uses

# Introduction:

Importance of the study:

- Rapidly growing water demands
- Arbuckle Simpson Aquifer – Sole Source
- No prior research on domestic water usage patterns in the City of Ada was conducted.

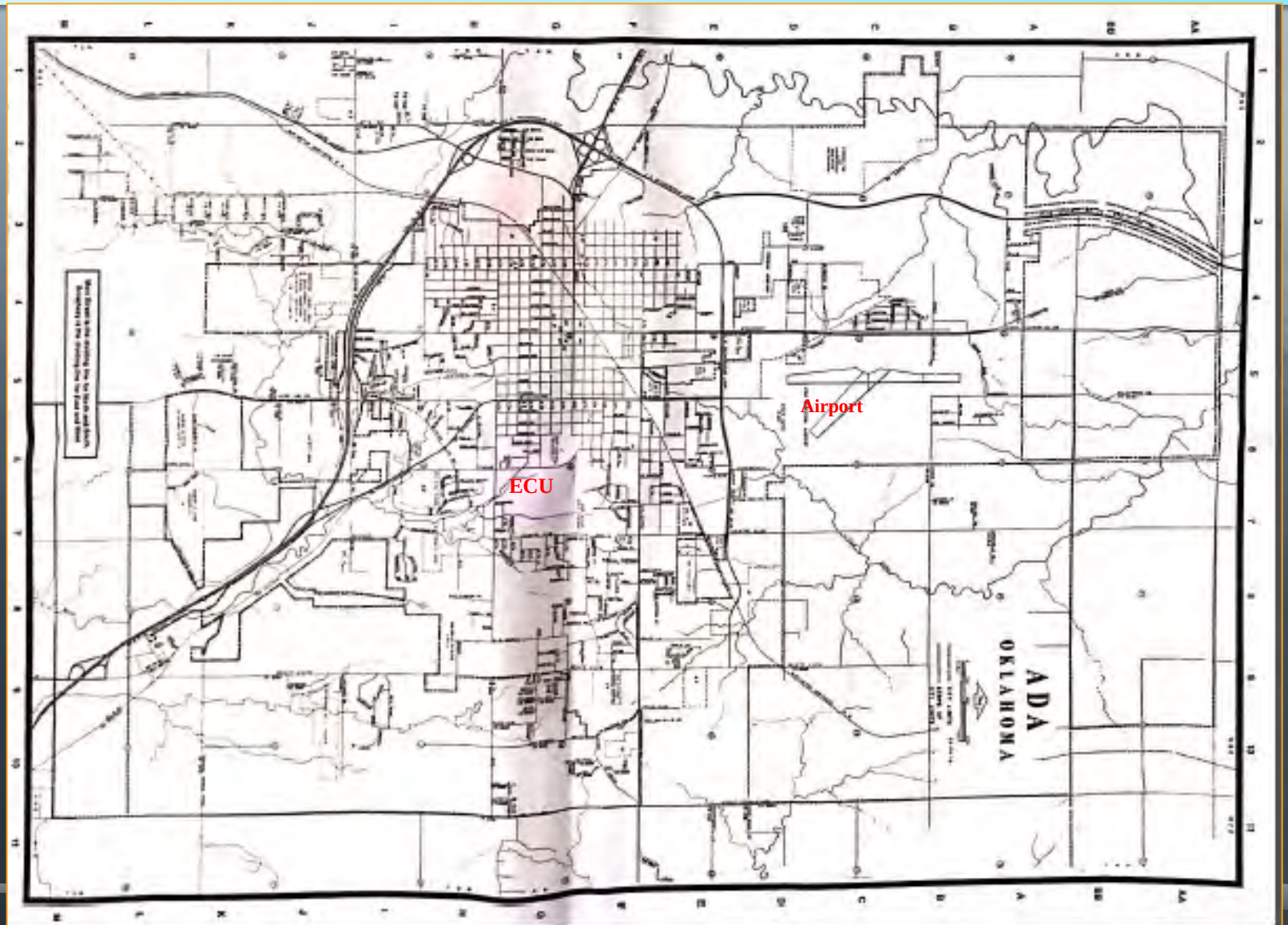
# Introduction:

Research objective –

To assess the domestic water consumption patterns and the water conservation behaviors in Ada.

- Study was approved by IRB ECU

# Study Area:



# Methodology:

- Primary Data :

- Online Survey
- Survey contained both open and close ended questions
- Targeted Sample Size - 100 households
- 83 % accounted

- SPSS was used to analyze primary data

# Methodology:

## Domestic Water Use Survey

Please answer the following questions to help better assess current water needs and plan for the future. It is the first step in beginning to conserve our most precious resources, water. This survey will assist you in tracking your household consumption, both indoors and outdoors. This information is being collected for the research purpose by the graduate student at East Central University.

Thank you for taking your time and participation!!!

1. Do you live in city of Ada?

- Yes
- No

2. Please provide your Home Address below:

### Section I. Socio-Economic Data

3. What is the source of your water?

   - City Water
   - Private Well
   - Both

4. Disposal of wastewater

   - City Sewer
   - House Septic system
   - Both

5. Number of residents in the house

6. What type of residence do you live in?

   - Single Family house
   - Mobile Home
   - Apartment

7. What is your average family income?

   - Less than $20,000
   - $21,000 to $40,000
   - $41,000 to $60,000
   - Above $60,000

### Section 2. Bathroom Water Use

8. How many showers are taken in your household per day?

9. On average, how many minutes each day member spend in the shower?

   - 5 mins
   - 6 - 15 mins
   - 16 - 30 mins
   - more than 30 mins

10. Do you have a low flow shower head?

    - Yes
    - No
    - Maybe

11. How many baths are taken in your household on a weekly basis?

12. Is the bath tub filled half way or all the way?

    - Half way
    - Full
    - N/A

13. Do your bathroom sinks leak?

    - Yes
    - No

### Garden / Lawn Water Use

33. On average, how many times a week do you water the lawn?

    - Daily
    - Every Second day
    - Weekly
    - Never

34. How many minutes you spend each time watering the lawn?

35. How many times a week do you wash car/boat/driveway?

    - Daily
    - Every Second Day
    - Weekly
    - Never

36. How many minutes you spend each time in washing car/boat/driveway?

37. Do you have a rainwater tank?

    - Yes
    - No

38. Do you have a pool?

    - Yes
    - No

39. How many minutes you spend filing the pool per week?

### Section 3. Kitchen Water Use

21. Do your kitchen faucets leak?

    - Yes
    - No

22. Do your kitchen sinks have low-flow faucets?

    - Yes
    - No
    - Maybe

23. Do you have a dishwasher?

    - Yes
    - No

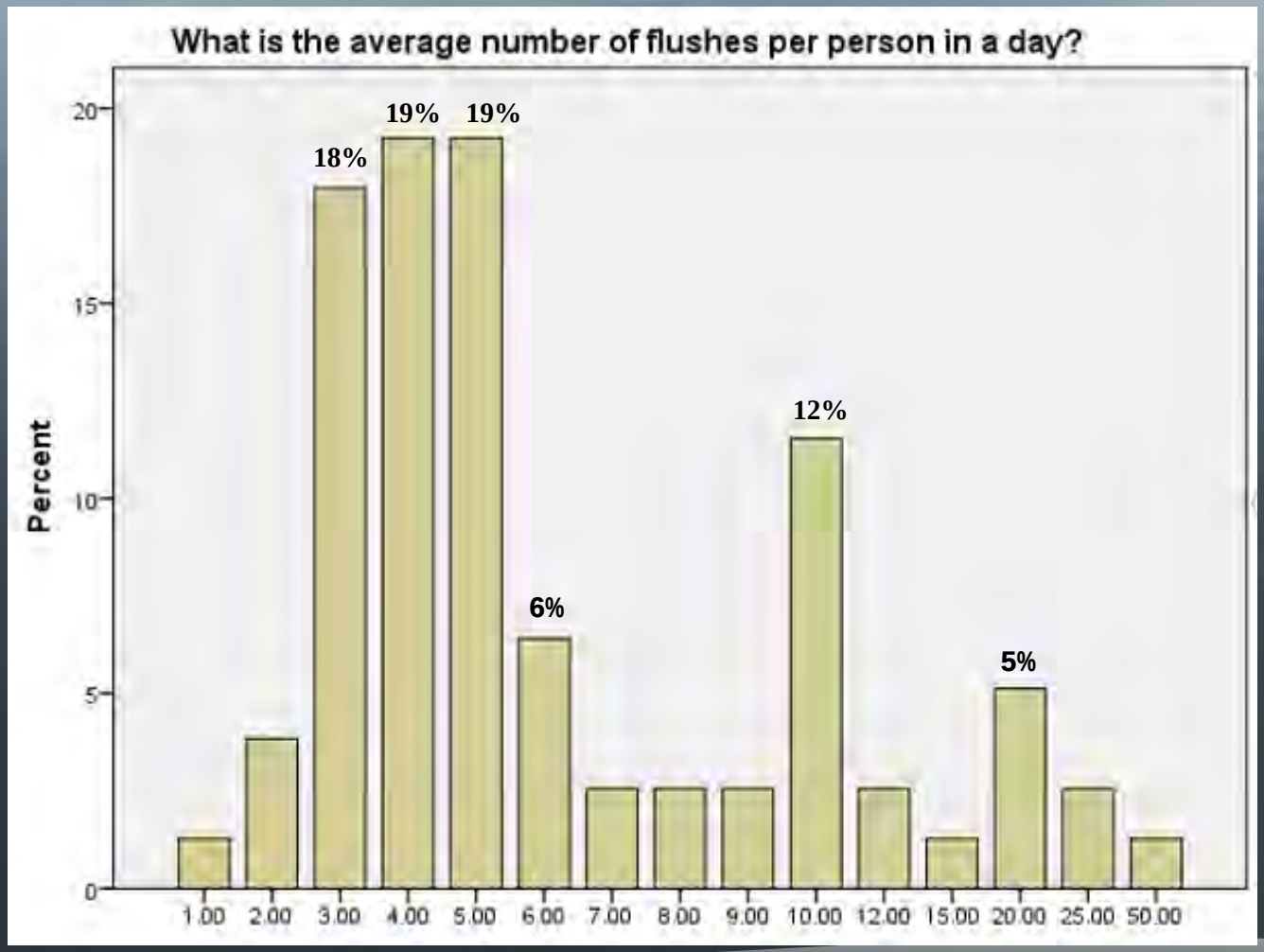
### Water Conservation Tips:

1. Turn off the faucet while you brush your teeth and save 4 to 10 gallons of water a day.
2. Fix your leaky faucet and save as much as 7 gallons of water a day.
3. Only run your washing machine and dishwasher when they are full. You can save as much as 15 gallons per load for the dishwasher and 55 gallons per load for the washing machine.
4. Take shorter showers - Turn off the shower after soaping up then turn it back on to rinse. A four-minute shower uses approximately 20 to 40 gallons of water.
5. Use the minimum amount of water needed for a bath by closing the drain first and filling the tub only 1/3 full. Put the plug or stopper in the tub before turning on water.
6. When washing dishes by hand, fill one sink or basin with soapy water. Quickly rinse under a slow-moving stream from the faucet.
7. Water lawns during the early morning hours when temperatures and wind speed are the lowest. This reduces loss from evaporation.
8. Install sprinklers that are the most water-efficient for each use. Micro and drip irrigation and soaker hoses are examples of water-efficient methods of irrigation.
9. Do not leave sprinklers or hoses unattended. Your garden hose can pour out 600 gallons of water or more in only a few hours, so don't leave the sprinkler running all day.
10. Install a low-flow toilet or tank water saving device and a low-flow shower-head to save water.

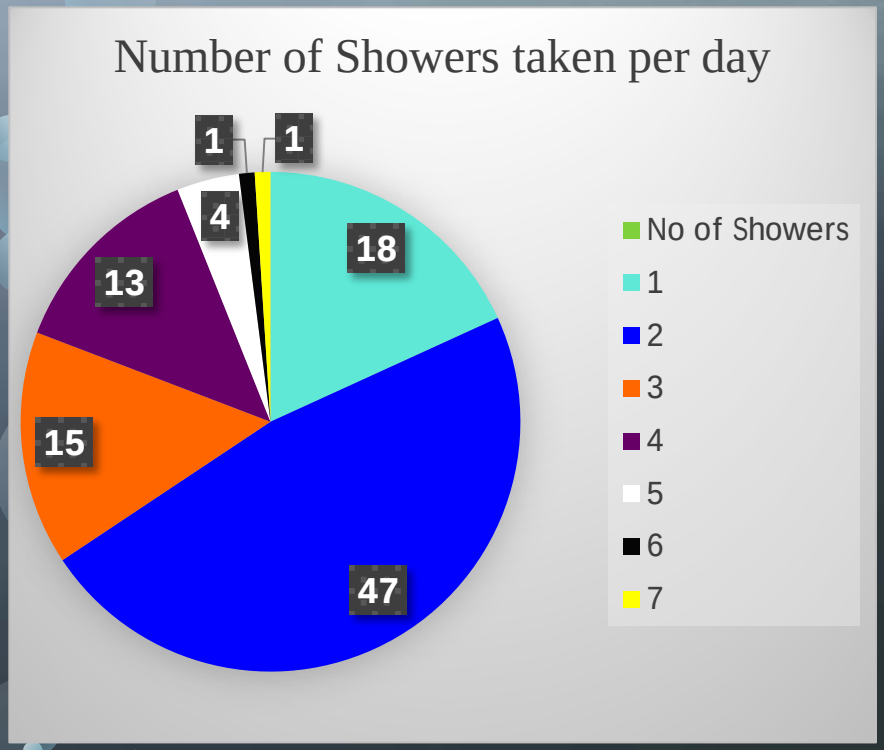
References:

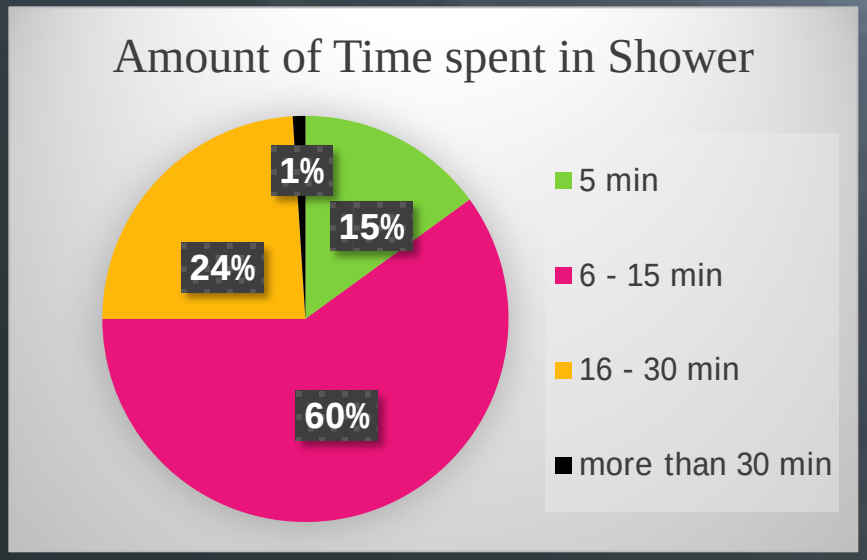
https://www.dep.state.fl.us
http://earthsavv.com

# Results:
## (Water Consumption Patterns)

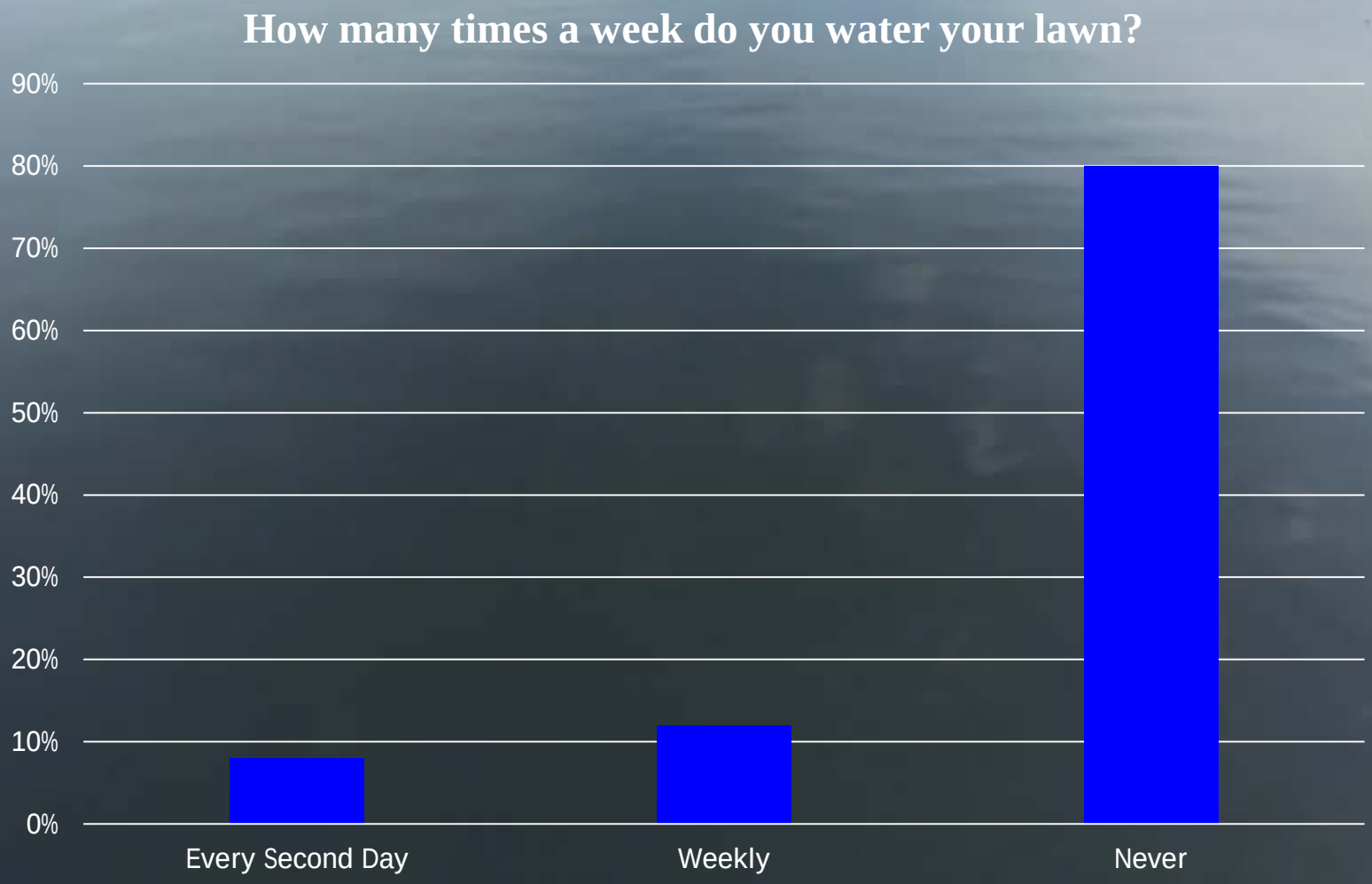


# Results:
## (Water Consumption Pattern)



# Results:
## (Water Conservation Behaviors)



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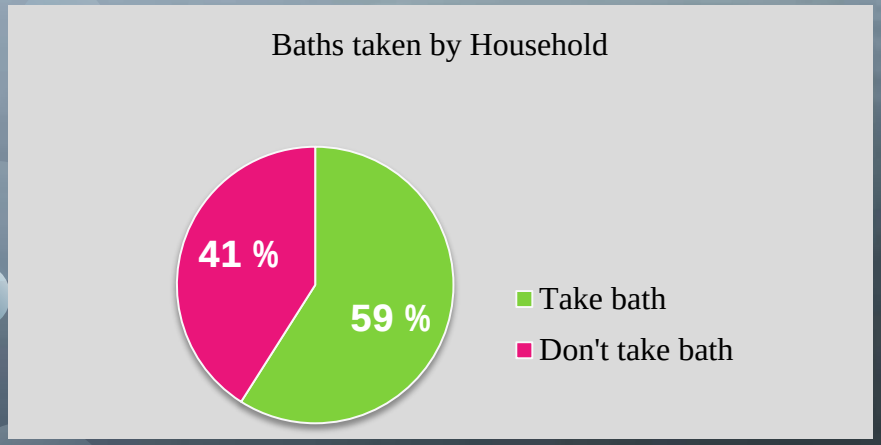
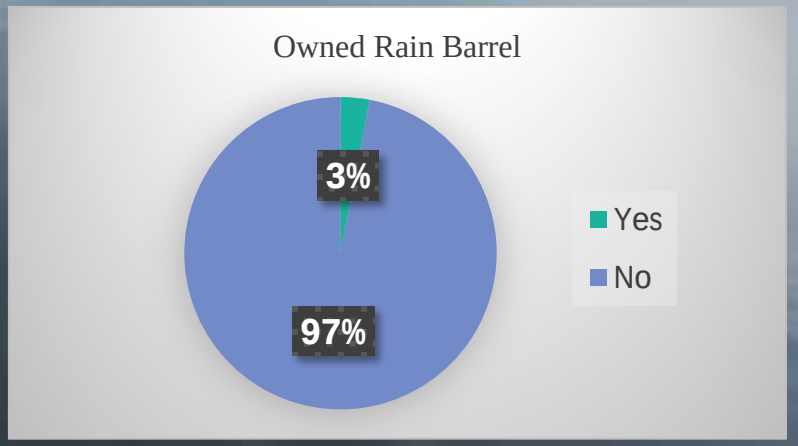
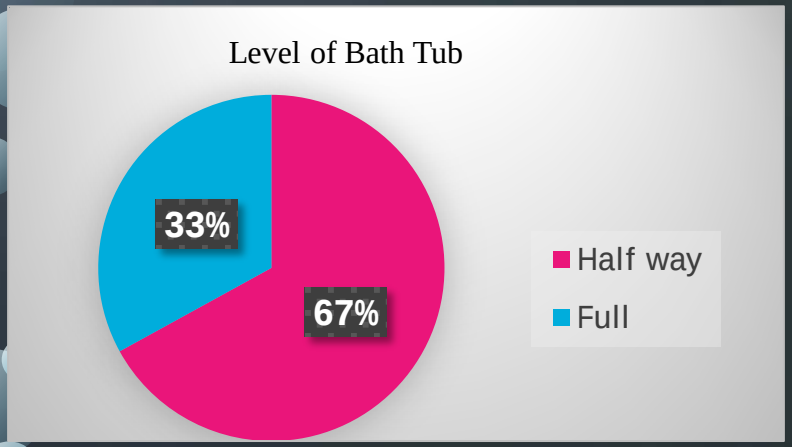
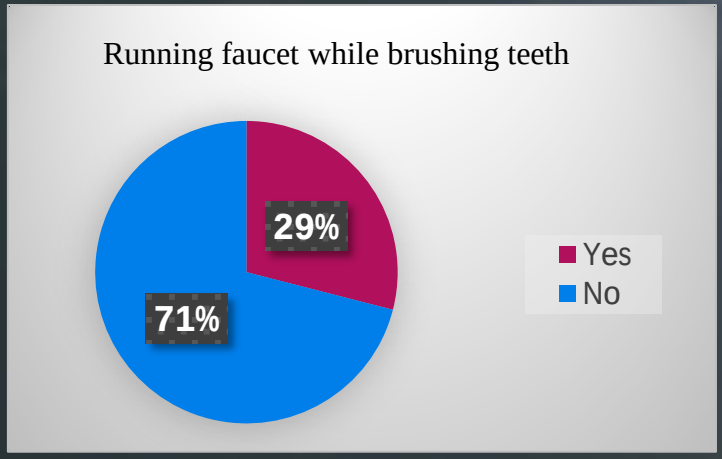
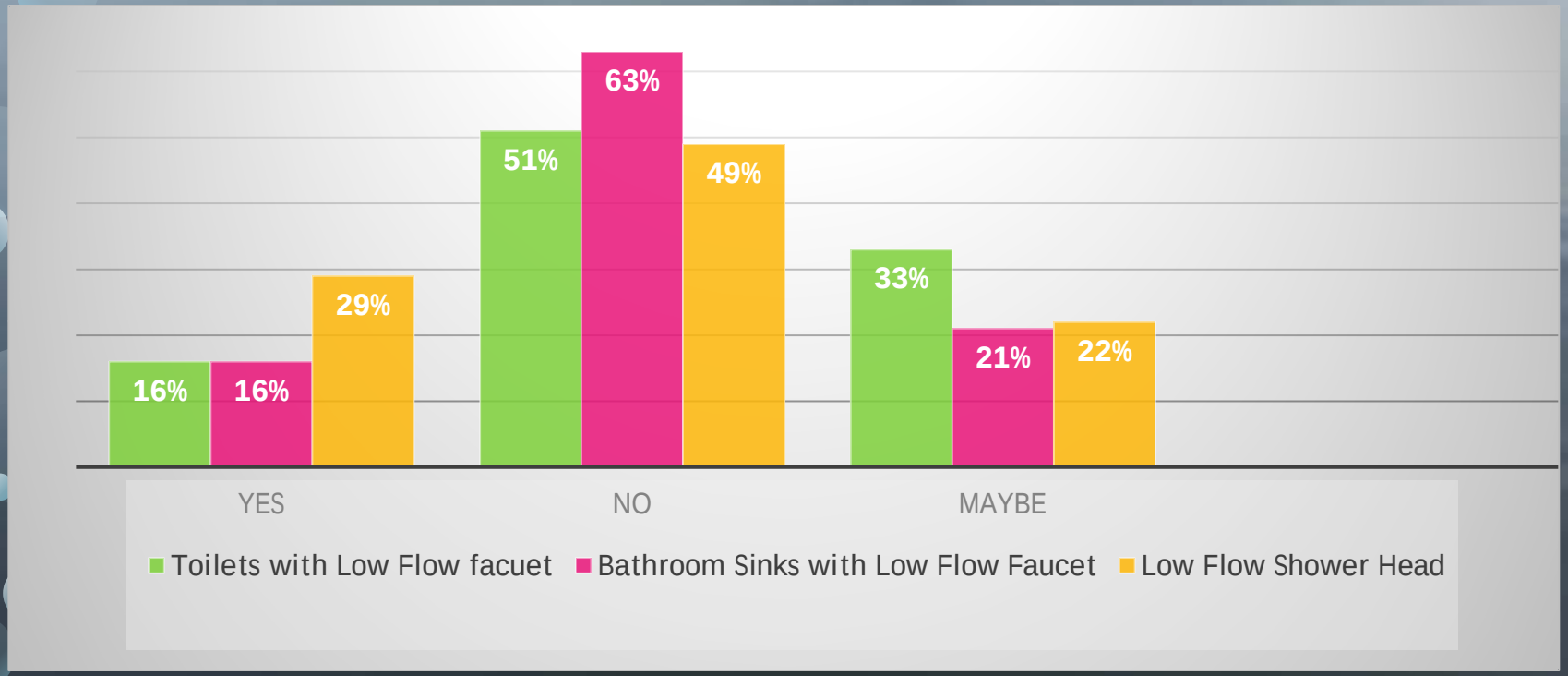


# Results:
## (Water Efficient Appliances)




More than half of the Households that took part in the survey were lacking Water efficient showerheads and faucets

# Conclusion:

- Lack of water efficient appliances
- Minimal water conservation practices
- Water awareness programs
- Rainwater harvesting can play important role in meeting water supply challenges.

# Future Projects:

- Different factors determining water use like Education, Gender, Age of House and so on
- Comparing other cities with Ada city on domestic water use
- Comparing domestic and industrial water consumption

Questions?

**THANK YOU!!!**