

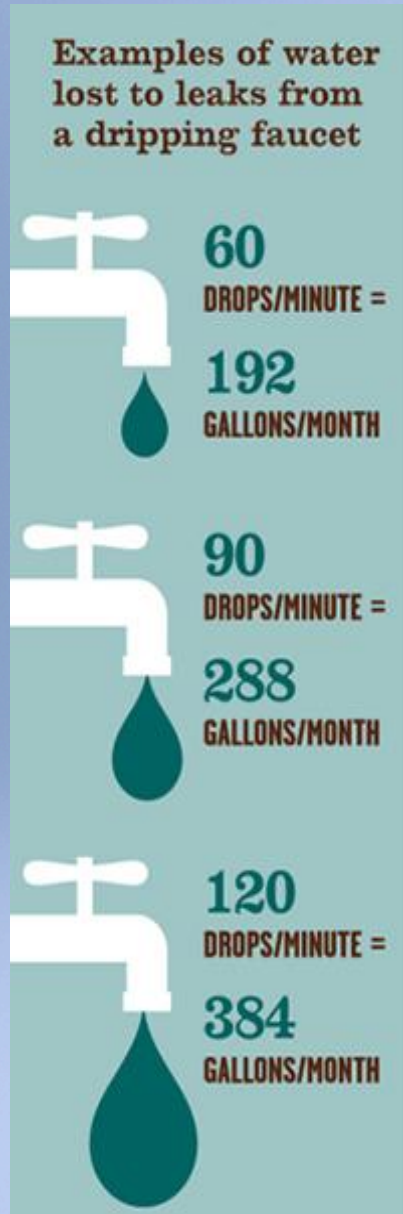
# Waterless In Whitefield

## What Can You Do?



Click Mouse to Begin

# Leaks - What can you do?



In US homes, 10-15% water is wasted due to leaks

- Be aware of your consumption: study your meter reading
- Compare with neighbors – either of you could have leaks
- Do a monthly visual inspection. Ensure no taps/showers are leaking and no leaks below sinks
- Cement tanks often leak after a couple of years. Simple directions to check sump:
  - Ensure your overhead tank is full. Switch off any automatic filling of OHT from sump
  - Turn off incoming water (preferably after sump is full)
  - Note the water depth (measuring tape, string, ...)
  - After 12/24 hours measure depth again
  - Reduced water level indicates leakage – time to fix cracks and waterproof sump

## Refuse Bottled Water

- Takes 3 L of water to produce 1 L of bottled water
- Bottles can leach chemicals into the water if left in the sun, heated up, or reused several times, creating various health problems
- More than 30% of recyclable plastic bottles end up in landfills each year.
- Plastic requires upto 47 million gallons of oil per year just in the USA

# Refuse Soda

- To manufacture 1L of soda, 8-10 L of water are used
- If we count the entire footprint of a soda – manufacturing of PET bottle, bottle cleaning, manufacturing, packaging an 0.5L bottle of soda can use as much as 170L to 310L of water. <http://www.waterfootprint.org/?page=files/Softdrinks>
- BAD for you: consumption of sugar sweetened soft drinks causes obesity, diabetes, dental issues and low nutrient levels

## Reduce

- No Hose! Use bucket to wash cars – save 80% – 150 L
- Switch off tap while soaping in shower and while brushing teeth

## Reuse

- Keep bucket under shower to collect cold water while waiting for hot water. (Re)Use this water for mopping
- Use biodegradable mopping phenyl. Reuse mopped water for plants

## Recycle

- Communities recycle STP water for gardening
- Invest in plumbing – dual plumbing allows used water from shower/laundry/STP for flushing; and save 40% of water

# Water Contaminants

## Bacteria and Virus

- Some bacteria are bad and should be zero. Others, in very small amounts, build immunity. Larger amounts cause illness and drain body energy to fight (is that the reason Indians remain short?).

## Dissolved Salts

- Can cause high blood pressure, skin rashes, hair loss, and diarrhea.
- Corrode pipes and electrical equipment.

## pH

- Indicates alkalinity and salt presence, affects feel of water.

## Chlorides

- Changes taste of water and can cause high blood pressure.

## Sulphates

- Cause diarrhea along with vomiting.

## Fluoride

- Acutely toxic: cause bone fracture, affects brain, thyroid, most organs

## Nitrates

- Cause shortness of breath and can cause heart defects

## Lead, Arsenic, Mercury

- Acute toxics, poisons that cause cancers, brain/nervous disorders, organ loss.

# Water Treatment

## Plants and Soil

- Natural Cleaners: no side effects while removing 99% bacteria
- Filtered ground/lake/river water even sewage for thousands of years
- Symbiotic relationship – retains water as a nutrient (not just hydration)

## Softeners

- Removes salts, hardness
- Requires regular maintenance and cleaning,
- Disposal issues of salts and also of water used in cleaning

## UV

- Kills 99% bacteria and most virus. Improves immunity.
- No waste, requires maintenance

## RO

- Includes UV, kills 99% bacteria and most virus.
- Reduces salts, metals, contaminants depending on membrane and input water.
- High energy use and heavy waste (60-95%)

# Water Testing – Varthur Lake

## Hardness



**TDS: 665**

DESCRIPTION OF SAMPLE: VARTHUR LAKE WATER

PARAMETER	RESULTS
APPEARANCE	MUDDY COLOUR WITH FINE SUSPENDED SOLIDS
SMELL	UNPLEASANT ODOUR
TURBIDITY AS NTU	18.0
COLOUR	—
CONDUCTIVITY MICROMHDS/Cm @ 25°C	990.0
pH	7.10
EQUIVALENT MINERAL ACIDITY AS CaCO <sub>3</sub>	250.0
mg/L	340.0

## Water Testing

- Conducted in special laboratories
  - Take 8-10 days to get results on the water quality
  - Cost Rs 6000 to Rs 8000
- Field Kits available of varying quality, # of tests, and price