AUGUST
2024

NEWSLETTER

GOAL6 :
CLEAN WATER AND SANITATION

(Sustainable Development Goals)

OVERVIEW OF SUSTAINABLE DEVELOPMENT GOALS

- The 70th Session of the UN General Assembly held on 25th September 2015 adopted the Sustainable Development Goals (SDGs) with 17 goals and 169 targets, under the official agenda "Transforming our world: the 2030 Agenda for Sustainable Development". India is a signatory to this landmark agreement.

70 Session of UN General Assembly, New York , 25th Sept. 2015

- Officially, the SDGs came into effect from 1st January 2016.
- Member Countries have the responsibility for follow-up and review the progress made in implementing the goals and targets.
- SDGs is an inter-governmentally agreed set of goals relating to international development which aims at meeting the needs of the present without compromising the ability of future generations to meet their own needs.

17 GOALS OF SDG

WHAT IS GOAL 6

CLEAN WATER AND SANITATION

Sustainable Development Goal 6 (SDG 6) aims to ensure the availability and sustainable management of water and sanitation for all. This goal focuses on providing universal access to safe and affordable drinking water, adequate and equitable sanitation and hygiene, and improving water quality by reducing pollution.

UNDERSTANDING THE CHALLENGE:

SDG 6 emphasizes the importance of sustainable water management, including efficient use, protecting and restoring water-related ecosystems, and enhancing international cooperation to support capacity-building and water-related activities in developing countries. By achieving these targets, SDG 6 seeks to address global challenges related to water scarcity, quality, and accessibility, contributing to the overall health and well-being of communities and ecosystems.

WHAT IS THE GOAL HERE?

The main goal of Sustainable Development Goal 6 (SDG 6) is to ensure the availability and sustainable management of water and sanitation for all.

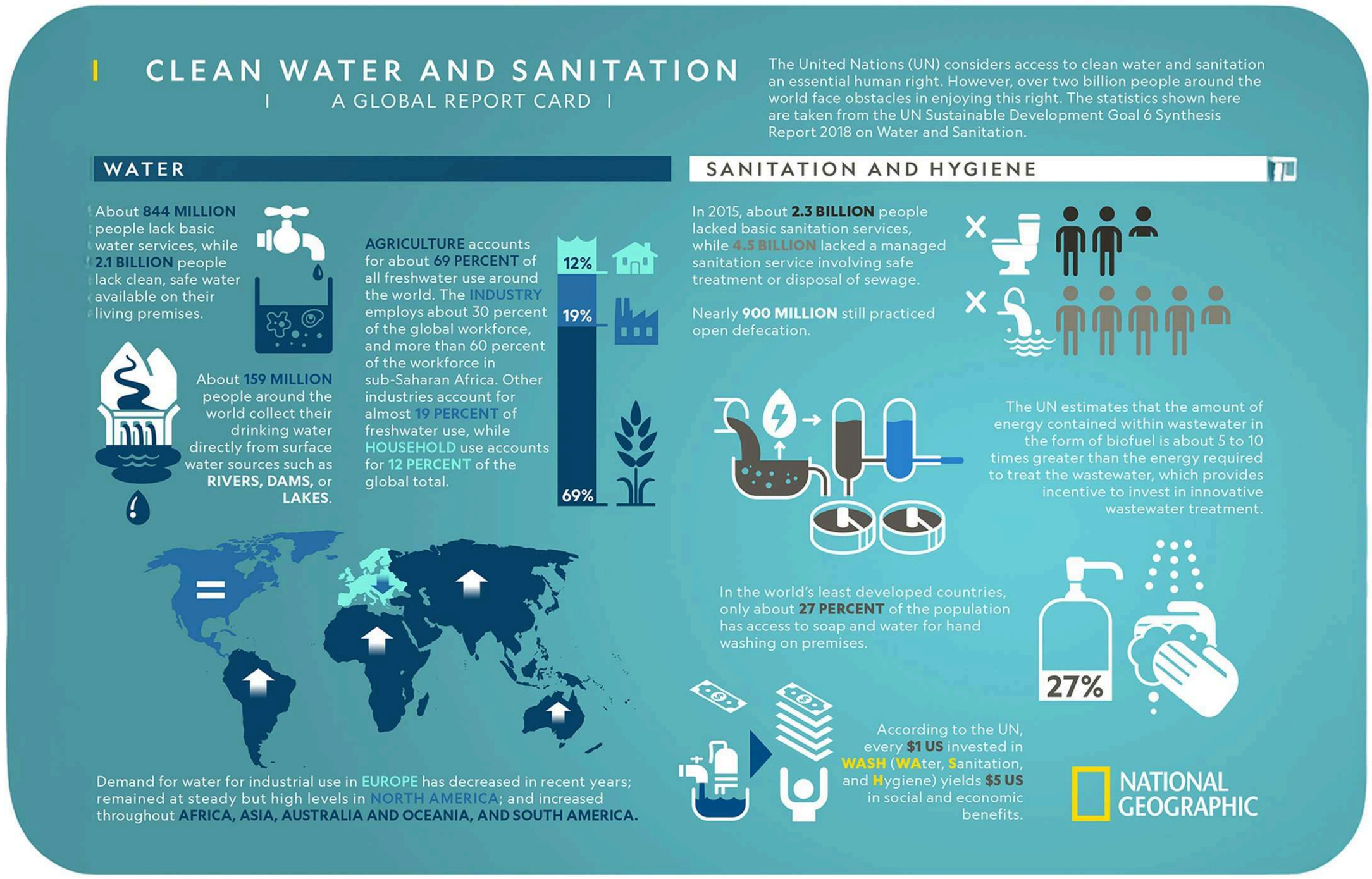
WHY DO WE NEED CLEAN WATER AND SANITATION AS AN SDG?

clean water and sanitation are foundational to achieving many other SDGs, such as those related to health, education, and poverty reduction, making them essential for sustainable development and improving quality of life globally.

REASONS WHY SDG 6 IS NECESSARY

Here are several reasons why we need Clean water and Sanitization as a Sustainable Development Goal (SDG 6):

- Health and Well-being
- Economic Development
- Education
- Environmental Sustainability
- Social Equality
- Resilience to Climate Change



HOW ARE DIFFERENT COUNTRIES CONTRIBUTING TOWARDS THE SDG 6 (CLEAN WATER AND SANITATION)

Different countries are contributing to the achievement of SDG Goal 6—ensuring the availability and sustainable management of water and sanitation for all—in various ways. Here are some examples:

- Netherlands: Known for its expertise in water management, the Netherlands supports international water projects, including improving flood resilience and water quality in developing countries.
- Singapore: Singapore has developed advanced water recycling and desalination technologies to ensure a sustainable water supply despite limited natural resources.
- Ethiopia: The Ethiopian government has invested in rural water supply and sanitation projects, improving access to clean water and reducing waterborne diseases in rural areas.
- Germany: Germany provides significant funding and technical support for water and sanitation projects worldwide through initiatives like the German Federal Ministry for Economic Cooperation and Development (BMZ).
- India: The Swachh Bharat Mission (Clean India Mission) has made substantial progress in improving sanitation and reducing open defecation across the country.South Africa: South Africa has implemented policies and programs to improve water access and sanitation in underserved communities, addressing historical inequalities.
- Brazil: Brazil's National Water Agency (ANA) works on integrated water resources management, promoting sustainable water use and protecting water ecosystems.
- Bangladesh: Bangladesh has made significant strides in providing access to safe drinking water and sanitation through community-based water management and sanitation programs.
- Australia: Australia supports water resource management and sanitation projects in the Asia-Pacific region, helping to improve water security and resilience to climate change.

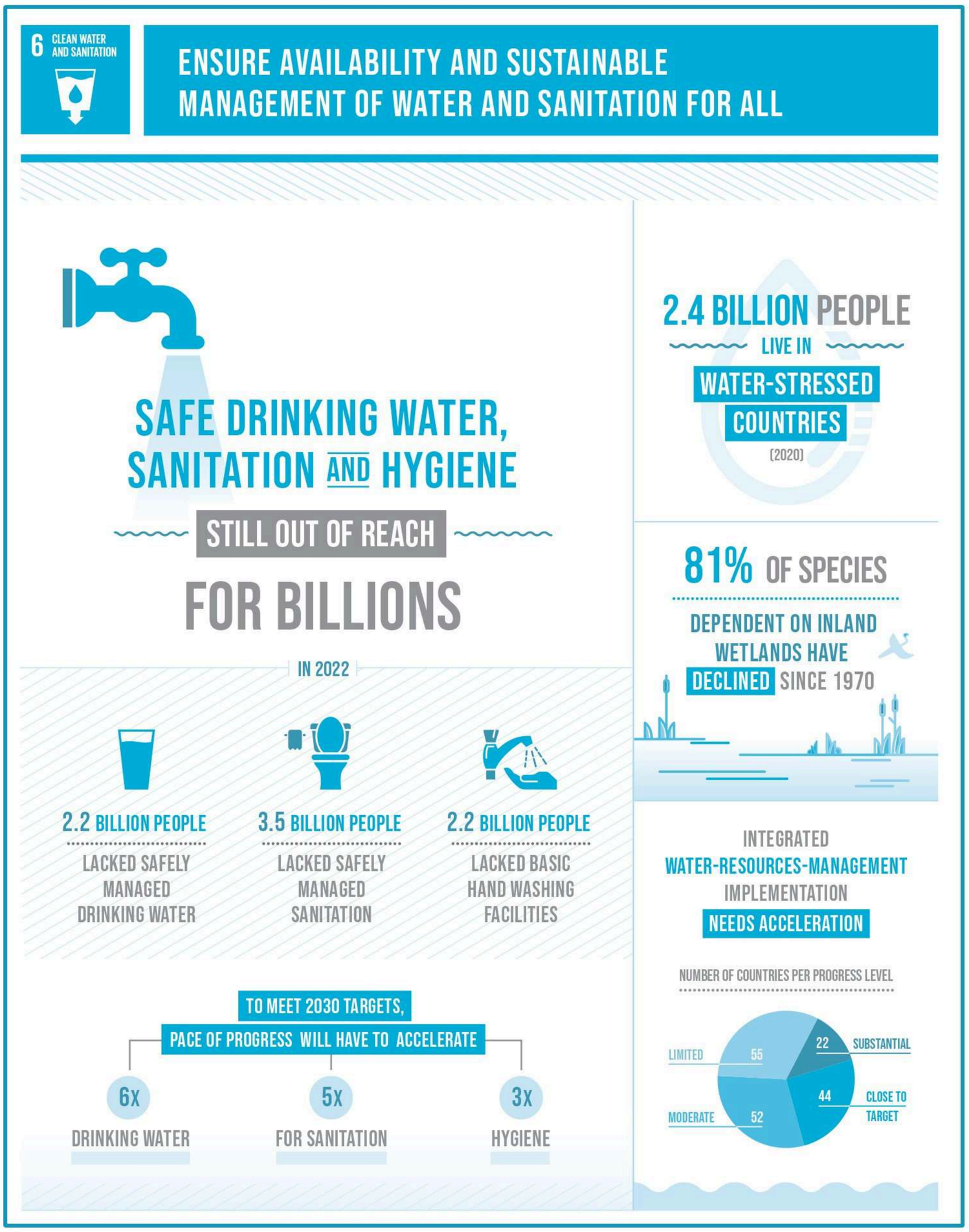
WHAT ARE THE GOAL TARGETS OF SDG 6 BY 2030?

Safe and Affordable Drinking Water: Ensure universal and equitable access to safe and affordable drinking water for all.

Adequate and Equitable Sanitation and Hygiene: Achieve access to adequate and equitable sanitation and hygiene for all, with a special focus on the needs of women and girls and those in vulnerable situations. End open defecation.

Water Quality: Improve water quality by reducing pollution, eliminating dumping, and minimizing the release of hazardous chemicals and materials. Halve the proportion of untreated wastewater and substantially increase recycling and safe reuse globally.

Water-Use Efficiency: Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.



THE WORLD IN STATISTICS

54% of the world's population uses a safely managed sanitation service [2]

2.2B people worldwide do not have safely managed drinking water services [3]

In 2020, **3 out of 4** people used safely managed drinking water services [4]

74% of the world's population uses a safely managed drinking water service [5]

Each year, diarrhoea kills around 525 000 children under five due to diarrhoea linked to inadequate water, sanitation, and hygiene (WASH) [6]

Water scarcity will also lead to an estimated **700M** climate refugees by 2030 [7]

2.8B people lack access to basic sanitation services, such as toilets or latrines [8]

1 in 4 people still lack access to handwashing facilities with soap and water at home [9]

85% of the planet's wetlands have been lost [10]

HOW TO
ACHIEVE SDGs

- A localized approach to address the unique challenges and opportunities present at the local level. By building a Local SDG Agenda tailored to gender equality, we can effectively target and implement initiatives that promote women's rights and empowerment.

- Creating an environment where multiple stakeholders—including civil society, private sector organizations, professional associations, and other agencies—actively participate in gender-focused initiatives is crucial. These collaborative efforts can drive meaningful change and ensure that diverse perspectives and resources contribute to gender equality.

- Conducting a situation assessment to identify development gaps and needs related to gender inequality is essential. By setting priorities at the local government and district levels, we can formulate targeted SDG-wise planning that addresses specific gender issues. Aligning existing budgets, schemes, and programs with relevant SDG 5 targets will further enhance our efforts to achieve gender equality in our state.

ABOUT

STEMROBO TECHNOLOGIES

STEMROBO provides 'End-To-End Solution to K-12 Schools' for 'Nurturing Innovation & 21st Century Skills' among young students of age 6-18 years across the globe. We offer young students an opportunity to explore, experience and bring innovation through a world class STEAM, Artificial Intelligence, Robotics & Coding curriculum integrated with our unique & affordable 'Technology Products and Solutions' delivered in an online or hybrid model; thereby enabling and empowering students to be able to become Creative - Thinkers and Problem - Solvers. Together, let's unlock the potential within each student, ignite a passion for Innovation, Creativity & Learning, and pave the way for a brighter tomorrow.

IMPORTANCE OF

STEM EDUCATION FOR KIDS

The term "STEM" typically refers to a group of academic disciplines that are focused on science, technology, engineering, and mathematics. it prepares them for the future by building problem-solving skills, encouraging curiosity and exploration, fostering collaboration and communication skills, and addressing global challenges that require STEM principles for their solution.

About

Atal Tinkering Lab

The Atal Tinkering Labs (ATLs) are an initiative under the Atal Innovation Mission (AIM) by the Government of India, aimed at fostering a culture of innovation and entrepreneurship among young students. These labs are set up in schools across India to provide students with the tools and environment to develop their scientific temper and creativity.

The primary objective of ATLs is to cultivate one million children in India as neoteric innovators. This is achieved by providing students with access to tools and equipment that enable them to work on projects related to science, technology, engineering, and mathematics (STEM).

FUN FACT

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Water is life: 71% of the Earth's surface is water, but only 1% is accessible fresh water!

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GLIMPSE OF ACTIVITIES

5th Class

- Class 5th D:
- Activity performed using Paper circuit kit
- Activity performed Series and Parallel circuits
- Activity performed on discovery motion
- Activity performed on Tinker and Design

FUN FACT

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Daily necessity: An average person needs around 50 liters of water each day for basic needs like drinking, cooking, and cleaning.

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GLIMPSE OF ACTIVITIES

6th Class

- Discussed Types of Sensor
- Explained the working and Application of LDR sensor and Ultra Sonic sensor.
- Activity performed on: Tinker Orbits
- Activity performed: Control LED using LDR sensor
- Explained the concept of Electro-Magnets
- Explained the working of DC motor.

FUN FACT

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Access challenge: About 2.2 billion people still lack safe drinking water at home.

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GLIMPSE OF ACTIVITIES

7th Class

- Activity performed on Mechatronic kit
- Activity performed Advance car
- Explained the concept of Electro-Magnets
- Series and Parallel circuits Activity performed using Smart block
- Activity performed using Smart circuit kit
- Activity performed Series and Parallel circuits

FUN FACT

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Sanitation superheroes: Toilets save lives by preventing deadly diseases, yet 3.6 billion people lack safe sanitation.

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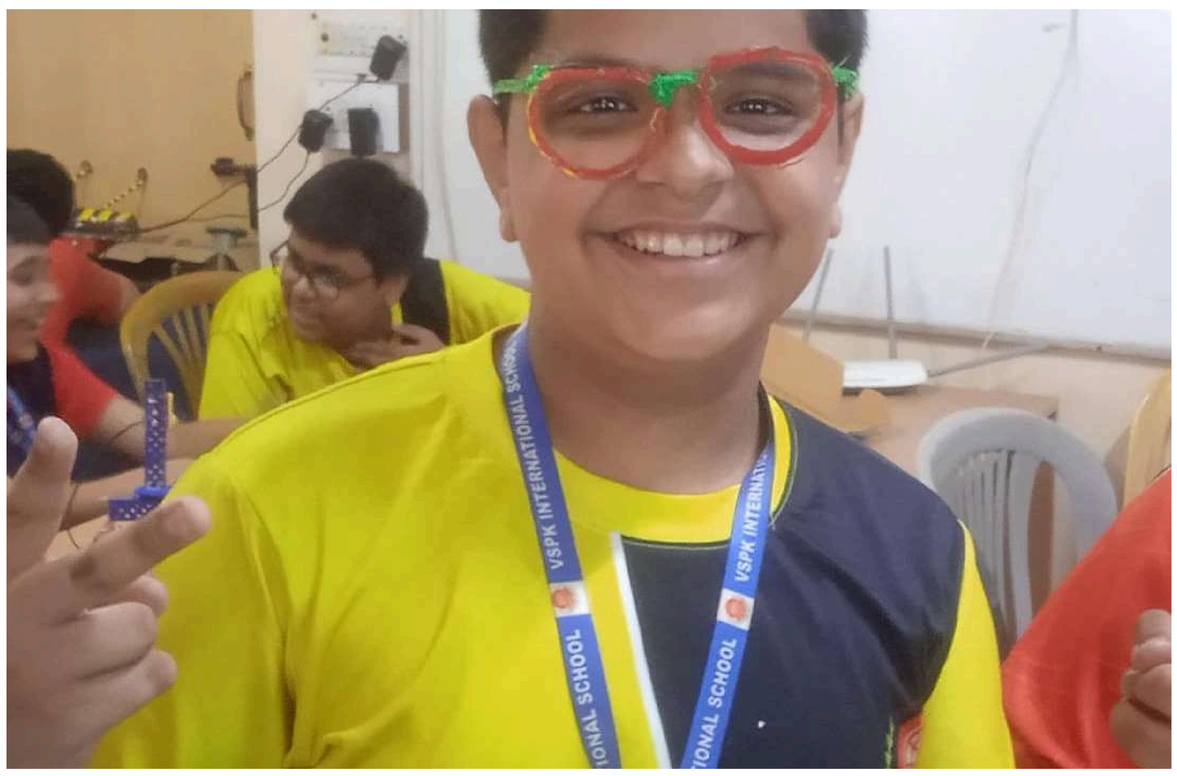
GLIMPSE OF ACTIVITIES

8th Class

- Explained Hardware of Arduino.
- Introduction to Pins and ports.
- Activity performed on Mechatronic kit
- Activity performed Tricycle
- Activity performed on Mechatronic kit
- Activity performed Advance car



FUN FACT

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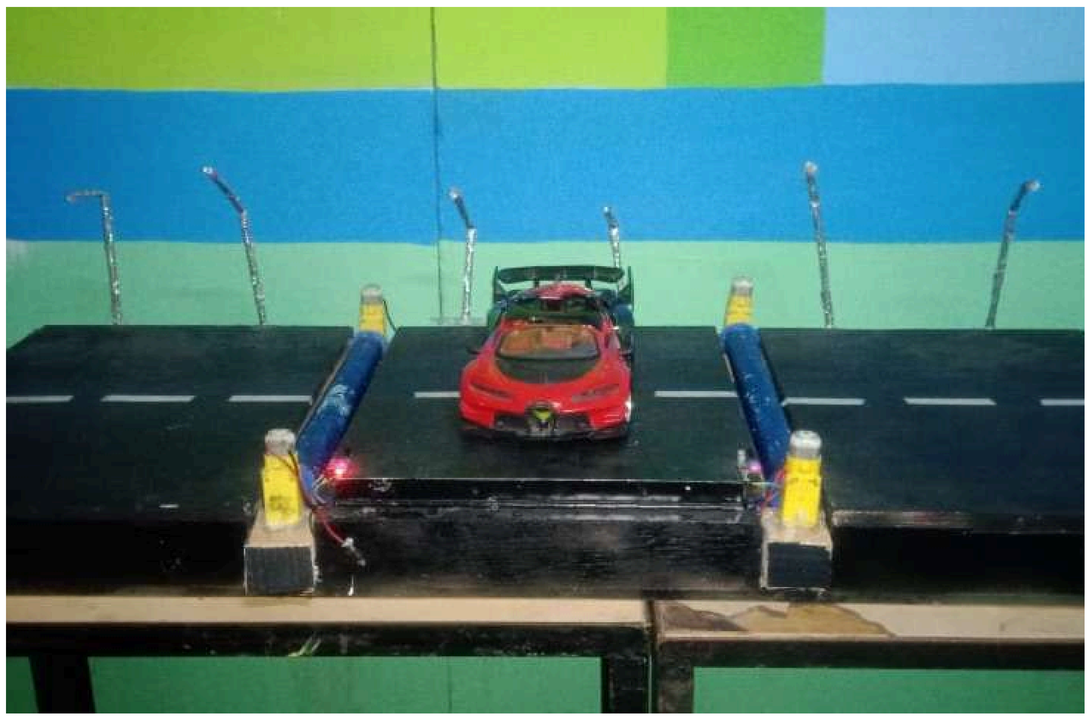
Reusable water: Around 80% of the world's wastewater is discharged back into nature without treatment.

GLIMPSE OF
PROJECTS

Project name - Free and clean Energy_



Generating electrical energy using rollers on roads is an innovative concept that harnesses the kinetic energy produced by vehicles

Working:

Roller Mechanism: The system involves installing rollers on the road surface. As vehicles pass over these rollers, the pressure and movement cause the rollers to spin.

Energy Conversion: The spinning rollers are connected to a generator. The mechanical energy from the rollers is converted into electrical energy by the generator.

Energy Storage and Use: The generated electricity can be stored in batteries or used directly to power street lights, traffic signals, and other roadside infrastructure

This technology represents a promising step towards sustainable energy solutions, leveraging everyday activities like driving to generate power.

FUN FACT

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Global health: Improved sanitation and clean water could prevent nearly 1.4 million deaths each year!

GLIMPSE OF

PROJECTS

Project name- Forest Fire Precaution System

"In response to the urgent need for effective forest fire prevention measures, we have developed a cutting-edge project leveraging soil moisture sensors and DHT11 sensors. Our system is designed to detect and mitigate the risk of forest fires by monitoring crucial environmental parameters in real-time.

The soil moisture sensor accurately measures the moisture content of the soil, providing vital information about the overall dryness of the forest floor. Meanwhile, the DHT11 sensor monitors temperature and humidity levels in the air, offering insights into atmospheric conditions that can influence fire behavior.

By continuously collecting data from these sensors, our project employs intelligent algorithms to analyze the information and identify areas at high risk of ignition. When a potential fire hazard is detected, the system triggers immediate alerts to relevant authorities, enabling swift intervention to prevent the spread of wildfires.

This innovative solution not only enhances early detection capabilities but also empowers forest management authorities with actionable insights for proactive fire prevention strategies. By combining advanced sensor technology with data-driven analytics, our project

represents a crucial step towards safeguarding our precious forests and mitigating the devastating impact of wildfires

FUN FACT

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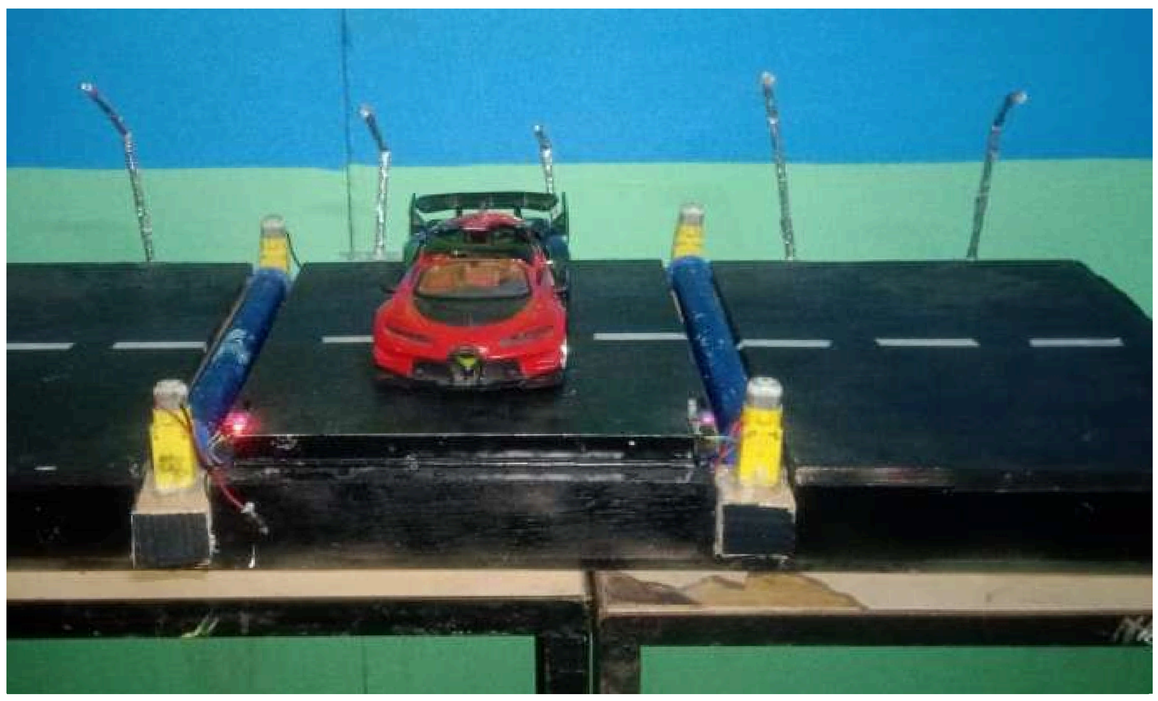
Thirsty crops: Agriculture uses 70% of the world's freshwater supply.

ACHIEVEMENTS
AT A GLANCE

Project name :- Forest Fire Precaution system

Project name :- Kinetic Road energy conservation system



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School days saved: Clean water and toilets at schools increase attendance rates, especially for girls.

THANK YOU

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