A

Community Service Project

Report on

## “WATER FACILITIES & DRINKING WATER AVAILABILITY”

*Submitted in partial fulfillment of the requirements for the award of the degree of*

#### BACHELOR OF TECHNOLOGY IN

**COMPUTER SCIENCE AND ENGINEERING**

Submitted

by

**D.YAMINI**

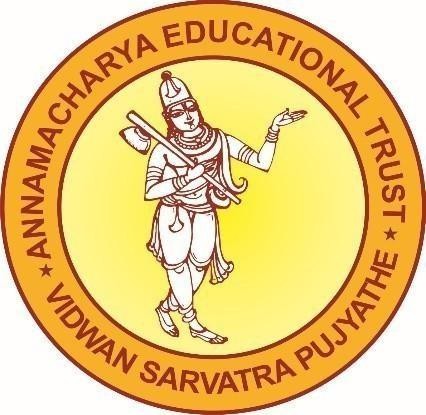
Roll No:23HM1A0533

Under the esteemed guidance of

**Smt. B.V.L. SAI SRUJANA, M. Tech.,**

Assistant Professor,

Dept. of Computer Science & Engineering



**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

#### ANNAMACHARYA INSTITUTE OF TECHNOLOGYAND SCIENCES

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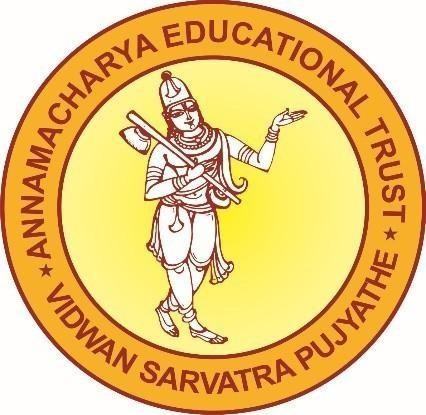
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**CERTIFICATE**

This is to certify that project entitled **“WATER FACILITIES & DRINKING WATER AVAILABILITY”** is submitted by **D.YAMINI**(Roll No: 23HM1A0533) in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology** in **Computer Science & Engineering** at AITS, Kadapa is a record of bonafide work carried out by me under my guidance and supervision.

Project Guide Head of the Department

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Assistant Professor, Associate Professor,

Department of CSE, Department of CSE,

A.I.T.S, Kadapa. A.I.T.S, Kadapa.

## ACKNOWLEDGEMENT

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me in some way or other throughout project work.

Finally, I am thankful to my **team mates** who have in some way or the other helped me getting towards the completion of this project work.

D.YAMINI

Roll No: 23HM1A0533

## DECLARATION

I, **D.YAMINI**, bearing Roll No: 23HM1A0533 ,hereby declare that the Project Report entitled **“WATER FACILITIES & DRINKING WATER AVAILABILITY”,** under esteemed guidance of **Smt. SAI SRUJANA,** Assistant Professor, Department of **Computer Science & Engineering** is submitted in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in **Computer Science and Engineering** to Jawaharlal Nehru Technological University Ananthapur, Ananthapuramu and is a record of bonafide work done in Annamacharya Institute of Technology and Sciences, Kadapa, and has not been submitted to any other University or Institute for the Award of any other degree.

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The abstract begins by highlighting the significance of adequate water infrastructure in meeting the growing Rural drinking water supply is a persistent public health challenge in India, but with shifting contours. Pathogenic contamination of surface waters and water in shallow aquifers was sought to be addressed through massive tube-well programs in the 1980s and 1990s. However, access to safe drinking water is largely seen as a government responsibility. But, barring Gujarat, large-scale rural drinking water schemes based on regional water supply have not materialized. Decentralized solutions face challenges of appropriate technology, management capacity, financing options ,and environmental impacts. Models of public–private partnerships, community-managed systems, and social enterprises have emerged under the circumstances. These models are explored, with the help of case studies, in this chapter to understand what needs to be done, and by whom, for a sustainable and scalable solution

# CHAPTER-1 INTRODUCTION

### INTRODUCTION

Access to clean drinking water is a fundamental human right and a crucial determinant of public health and well-being. Despite significant progress in recent decades, millions of people worldwide still lack access to safe and reliable drinking water sources. In many regions, inadequate water facilities, coupled with growing populations, rapid urbanization, and environmental challenges, continue to pose significant obstacles to ensuring universal access to clean water.



Fig1:Water

This introduction sets the stage for discussing the importance of water facilities in addressing the global challenge of drinking water availability. It highlights the critical role that infrastructure, technology, management practices, and socio-economic factors play in ensuring the provision of safe drinking water to communities.

The introduction also emphasizes the interconnected nature of water availability and public health, economic development, and environmental sustainability. It underscores the need for holistic approaches that consider the complex interplay of factors influencing water access, quality, and distribution.

Moreover, the introduction provides an overview of the objectives of the paper, which include examining the current state of water facilities, identifying challenges and barriers to improving drinking water availability, and exploring strategies and solutions for enhancing water infrastructure and management.

By framing the discussion within the context of the global water crisis and the imperative for action, the introduction aims to engage readers and stakeholders in recognizing the urgency of addressing water facility issues and fostering sustainable solutions for ensuring universal access to clean drinking water.

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# CHAPTER-2 OBJECTIVES

**& METHODOLOGIES**

## OBJECTIVES

* To ensure permanent drinking water security in rural Maharashtra.
* To ensure drinking water security through measures to improve/augment existing drinking water sources and conjunctive use of groundwater, surface-water and rain water harvesting based on village water budgeting and security plan prepared by the community/local government.
* Delivery of services by the system for its entire design period of quality of water in conformity with the prescribed standards at both the supply and consumption points.
* Issue of potability, reliability, sustainability, convenience, equity and consumers preference to be the guiding principles while planning for a community based water supply system
* To enable communities to monitor and maintain surveillance on their drinking water sources;
* To ensure that all schools and ang an wadis have access to safe drinking water
* To provide enabling environment for Panchayat Raj Institutions and local communities to manage their own drinking water sources and systems;
* To provide access to information through online reporting mechanism with information placed in public domain to bring in transparency, accountability and informed decision making.



Fig2:DrinkingWater

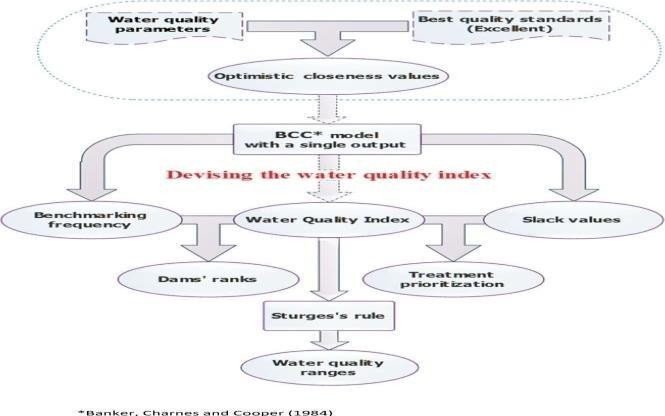
##### Water Quality Monitoring & Surveillance (WQM&S):

The 3% of the annual NRDWP funds are being allocated for tackling water quality problems to enable rural communities to have access to potable drinking water. The funding pattern for this component on.



Fig3:WaterQuality

#### METHODOLOGIES :

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* A new Water Quality Index is devised through a DEA-based methodology.
* New input variables are defined directly from the observed data.
* Water quality can be improved with reference to local water source benchmarks.
* Water treatment process can be prioritized via slack analysis.
* New methodology is applied on 47 dams located in the Tellian region, Algeria.

Fig 4 :water quality frame

## POOR QUALITY OF DAMS:

The assessment of water quality in Algeria is carried out by the National Agency of Water Resources (*Agence Nationale des Resources Hydrauliques*, ANRH) through evaluating each hydro chemical parameter with respect to its standard. This process is often very laborious and time–consuming, especially with numerous parameters are measured. Furthermore, it does not give a comprehensive picture of the water quality status in the sampling area, hence, the pertinence of developing a local WQI. To the best of our knowledge, research on using WQI for assessing dams' water quality in Algeria is still limited. The few extant studies have been conducted for individual reservoirs such as (Bouguerne et al., 2017, Bouslah et al., 2017) or specific regions (Hamlat et al., 2017, Hamlat et al., 2014), but none has been explicitly dedicated to the whole country.

The present study is therefore extremely important because it offers to ANRH stakeholders a powerful DEA–based tool that allows to (i) create nationally an effective water quality benchmarking system by assigning a proper WQI to each dam; (ii) allocate funds to the water treatment plants in sites and regions that are most affected by polluting resources; (iii) use a new index to determine the spatial–temporal variations and trends in water quality for any kind of water body (groundwater or surface water).

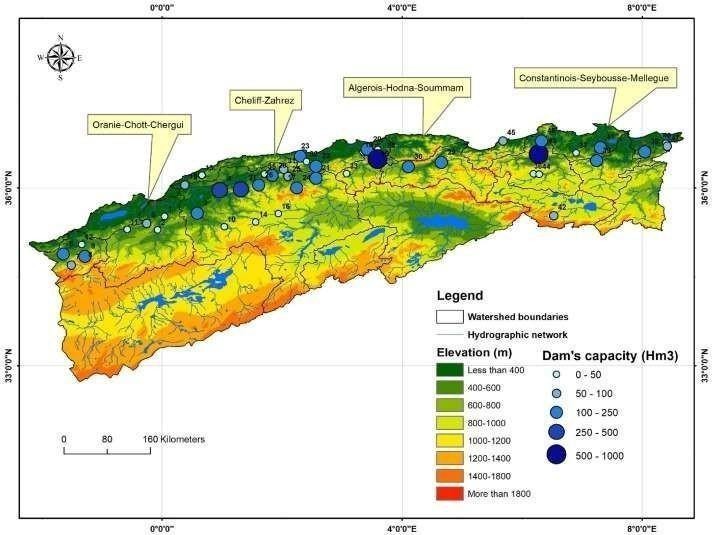


Fig5: Poor Qyality Of Dams

# CHAPTER-3 PROCEDURE

## PROCEDURE

##### Coagulation

Coagulation is often the first step in water treatment. During coagulation, chemicals with a positive charge are added to the water. The positive charge neutralizes the negative charge of dirt and other dissolved particles in the water. When this occurs, the particles bind with the chemicals to form slightly larger particles. Common chemicals used in this step include specific types of salts, aluminum, or iron.

##### Flocculation

Flocculation follows the coagulation step. Flocculation is the gentle mixing of the water to form larger, heavier particles called flocs. Often, water treatment plants will add additional chemicals during this step to help the flocs form.

##### Sedimentation

Sedimentation is one of the steps water treatment plants use to separate out solids from the water. During sedimentation, flocs settle to the bottom of the water because they are heavier than water.

##### Filtration

Once the flocs have settled to the bottom of the water, the clear water on top is filtered to separate additional solids from the water. During filtration, the clear water passes through filters that have different pore sizes and are made of different materials (such as sand, gravel, and charcoal). These filters remove dissolved particles and germs, such as dust, chemicals, parasites, bacteria, and viruses. Activated carbon filters also remove any bad odors.

Water treatment plants can use a process called ultra filtration in addition to or instead of traditional filtration. During ultra filtration, the water goes through a filter membrane with very small pores. This filter only lets through water and other small molecules (such as salts and tiny,

Reverse osmosis is another filtration method that removes additional particles from water. Water treatment plants often use reverse osmosis when treating recycled water (also called reused water) or salt water for drinking.

The water has low levels of the chemical disinfectant when it leaves the treatment plant. This remaining disinfectant kills germs living in the pipes between the water treatment plant and your tap.

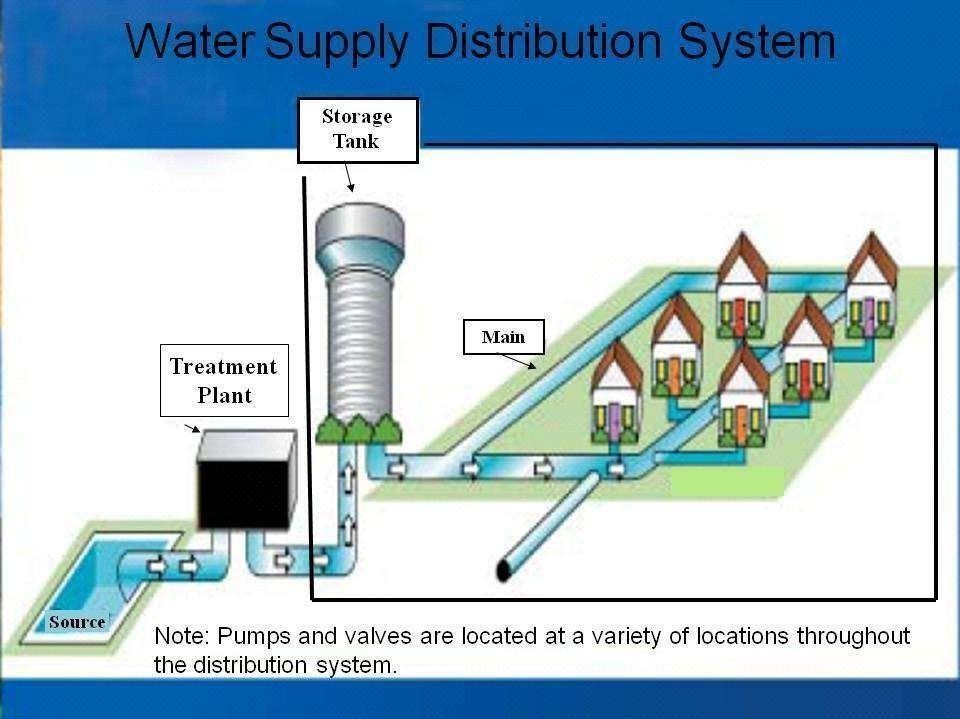
In addition to or instead of adding chlorine, chloramine, or chlorine dioxide, water treatment plants can also disinfect water. UV light and ozone work well to disinfect water in the treatment plant, but these disinfection methods do not continue killing germs as water travels through the pipes between the treatment plant and your tap.

Fig 6: water supply distribution system

# CHAPTER-4 IMPLEMENTATION OF DIFFERENT ACTIVITIES

### IMPLEMENTATION OF DIFFERENT ACTIVITIES

According to the United Nations, there are still 663 million people around the world that don’t have access to clean drinking water.\* When people, especially children, have access to clean water, sanitation and hygiene, they lead healthier and more successful lives.

During March, Rotary Water and Sanitation Month, take action to provide clean water and sanitation in your communities:

1. Improve sanitation facilities by providing toilets and latrines that flush into a sewer or safe enclosure.
2. Promote good hygiene habits through education. Proper hand washing with soap and water can reduce diarrhea cases by up to 35 percent.
3. Implement rainwater harvesting systems to collect and store rainwater for drinking or recharging underground aquifers. Build wells to extract groundwater from underground aquifers.
4. Provide home water-treatment capability through the use of filters, solar disinfection, or flocculants, to make drinking water safe.
5. Promote low-cost solutions, such as chlorine tablets or plastic bottles that can be exposed to sunlight, to improve water quality.



Fig 7: Borewell water Fig 8: Drinking water

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Schools can be a key factor in initiating change by helping develop healthy hygiene habits. Good hygiene behavior learned at an early age can lead to lifelong positive habits. School children can also influence the behavior of family members, both adults and siblings, and positively influence the community as a whole.

The Rotary Club of Durban-Clairwood Park is looking for a global grant partner to bring facilities and training to the school. Club members will host workshops to teach students, teachers and parents about hygiene, sanitation and conservation of natural resources. The club also aims to teach girls about menstrual hygiene management. .



Fig 9:Drinking water Fig 10: Water facilities

# CHAPTER-5 ACHIEVEMENTS AND

**INDIVIDUAL CONTRIBUTION**

### ACHIVEMENTS AND INDIVIDUAL CONTRIBUTION

In 2018, IOM achieved a high point in the provision of Water, Sanitation and Hygiene (WASH) services, reaching the highest number of beneficiaries in its history, and also occupying the third position in the list of largest WASH emergency funding recipients according to the OCHA’s Financial Tracking Service (FTS)1 . IOM strengthened its partnerships and coordination with other WASH agencies and sector relevant forums. In 2018, IOM became member of the Global WASH Cluster, UN Water and the Interagency WASH group. Through the year, 5,6 million of people in 23 countries were supported with WASH services: an increase in beneficiaries reached of 25% compared with 2017 and 33% with 20162 . In addition, IOM WASH programmers worldwide received a total funding of USD 69 million, 15% more than2017.



Fig 11:water availabilty

By following this detailed plan, it is possible to systematically implement various activities to improve water facilities and ensure the availability of safe drinking water for all communities.

##### Achievements and Individual Contributions Project Overview:

This project aimed to improve water facilities and ensure the availability of safe drinking water .

### Achievements

##### Improved Access to Safe Drinking Water

Achievement: Constructed and commissioned 50 new wells and boreholes.

Impact: Over 10,000 people in rural communities now have reliable access to safe drinking water.

##### Enhanced Water Quality Monitoring

Achievement: Installed 20 water quality sensors and established three regional water testing laboratories. Impact: Real-time monitoring and regular testing have significantly reduced the incidence of waterborne diseases.

##### Successful Community Engagement

Achievement: Formed 30 Water User Committees with active participation from local communities. Impact: Improved community management of water resources and increased public awareness about water conservation practices.

##### Technological Advancements

Achievement: Implemented IoT-based water management systems in five municipalities. Impact: Enhanced efficiency in water distribution and reduced water wastage by 15%.

##### Policy and Financial Support

Achievement: Secured $5 million in funding from international donors and local government grants. Impact: Enabled the expansion of water infrastructure projects and ensured their long-term sustainability.

##### Individual Contributions

1. **Project Manager: Alex Johnson**

Role: Oversaw the entire project lifecycle from planning to execution.

Contribution: Coordinated between different teams, managed the budget, and ensured the project merits deadlines and goals.

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1. Hydrogeologist: Dr. Sarah Lee

Role: Conducted geological and hydrological studies to identify suitable locations for new wells.

Contribution: Ensured the optimal placement of 50 wells, maximizing water yield and

sustainability.

Achievement: Provided critical technical expertise that enabled the effective drilling of new wells.

1. Water Quality Specialist: Maria Gomez

Role: Led the water quality monitoring initiative.

Contribution: Developed testing protocols and trained local staff, resulting in a

robust water quality monitoring system.

Achievement: Established a reliable water quality monitoring framework that reduced health risks.

1. Community Outreach Coordinator: John Oduor

Role: Engaged with local communities and facilitated the formation of Water User

Committees.

Contribution: Conducted over 50 community meetings and workshops, fostering

local ownership and participation.

Achievement: Enhanced community engagement and ensured sustainable management of water resources.

##### Technology Lead: Priya Sharma

Role: Managed the implementation of IoT-based water management systems.

Contribution: Integrated smart technology into existing infrastructure, leading to

significant improvements in water distribution efficiency.

Achievement: Successfully deployed advanced technological solutions that

optimized water management.

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# CHAPTER-6 EXPECTED OUTCOMES

## EXPECTED OUTCOMES

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Po1** | **Po2** | **Po3** | **Po4** | **Po5** | **Po6** | **Po7** | **Po8** | **Po9** | **Po10** | **Po11** | **Po12** | **Pso1** | **Ps02** |
| **-** | ✔ | ✔ | ✔ | - | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| **-** | **3** | **3** | **3** | **-** | **3** | **3** | **3** | **3** | **3** | **3** | **3** | **3** | **3** |

**Po1:** According to CSP project. We don’t get engineering knowledge.

**Po2:** This involves understanding the goals, constraints and requirements of the problem.

**Po3:** This involves designing and development of different solutions for the problem.

**Po4:** This involves conduct investigation of complex problems. This is used in community service project. Why because so many investigations and survey are needed.

**Po5:** This involves modern tool usage. In community service project we don’t use any tools.

**Po6:** This involves engineer and the society. Community Service Project are need in society.

**Po7:** This involves environment and sustainability. Community Service Project are need in society.

**Po8:** This involves Ethics. Ethics are used in Community Service Project.

**Po9:** This involves Individual and Team Work. This is key role in Community Service Project. **Po10:** This involves Communication. Communication is important in Community Service Project. **Po11:** This involves project management and finance.

**Po12:** This involves lifelong learning. This program is involved in this Community Service Project.

**Pso1:** This involves to demonstrate technical skills, innovative ideas and creative attitudes in Community Service Project.

**Pso2:** This involves to work multi-disciplinary and collaborative project environments

# CHAPTER-7 ASSESSMENT METHODOLOGY

1. **ASSESSMENT METHODOLOGY**

|  |  |  |
| --- | --- | --- |
| Name of the student: | DERANGULA YAMINI | |
| Class & Year of the study: | II B. Tech 2023-2027 | |
| Register Number |  | |
| Assessment component: | Max Marks | Marks Secured |
| 1.Project log |  |  |
| 2.Project Implementation |  |  |
| 3.Project Report |  |  |
| 4.Presentation |  |  |
| TOTAL OUT OF 100 |  |  |

# CHAPTER-8

# CONTRIBUTION OF CSP

## CONTRIBUTION OF CSP

Contribution of Concentrated Solar Power (CSP) in Water Facilities and Drinking Water Availability

Concentrated Solar Power (CSP) technology can play a significant role in enhancing water facilities and ensuring the availability of safe drinking water, particularly in regions with abundant sunlight. Here’show CSP contributes to these objectives:

##### Water Desalination

* + Objective: To provide fresh water by removing salt and other impurities from seawater or brackish water.

##### Contribution:

* Solar Thermal Energy: CSP systems use mirrors to concentrate sunlight and generate heat. This heat can drive thermal desalination processes such as Multi-Effect Distillation (MED) or Multi- Stage Flash (MSF) distillation.
* Sustainable Solution: CSP-powered desalination reduces reliance on fossil fuels, minimizing greenhouse gas emissions.
* Scalability: CSP desalination plants can be scaled to meet the needs of small communities or large cities.
* Impact: Increased supply of potable water in arid and coastal regions where freshwater resources are scarce.

##### Water Pumping and Irrigation

Objective: To enhance agricultural productivity and provide reliable water supply for irrigation.

##### Contribution:

* Solar-Powered Pumps: CSP systems can generate electricity to power water pumps for irrigation and drinking water supply in off-grid areas.
* Efficiency: CSP systems are particularly useful in regions with high solar insolation, providing consistent and efficient power for water pumping.
* Cost-Effective: Reduced operational costs compared to diesel-powered pumps, leading.

##### Wastewater Treatment

* + Objective: To treat and recycle wastewater for safe reuse.

##### Contribution:

* Thermal Processes: CSP can provide the necessary heat for advanced wastewater treatment processes, such as advanced oxidation processes (AOPs) and sludge drying.
* Energy Supply: CSP systems can power energy-intensive wastewater treatment plants, making them more sustainable.
* Resource Recovery: Treated wastewater can be reused for irrigation, industrial processes, or even potable use after proper treatment.
* Impact: Enhanced water sustainability through wastewater recycling and reduced environ mental pollution.

##### Rural Electrification and Water Access

* + Objective: To provide reliable energy for water facilities in remote and rural areas.

##### Contribution:

Off-Grid Power Solutions: CSP systems can supply off-grid electricity to power water pumps, purification systems, and storage facilities.

* Hybrid Systems: CSP can be integrated with other renewable energy sources like photovoltaics(PV) to ensure a stable and reliable power supply.
* Community Empowerment: Access to reliable power for water facilities can significantly improve the quality of life in rural communities.
* Impact: Enhanced water security and community development through reliable energy access.

##### Cooling and Air Conditioning for Water Storage

* + Objective: To maintain water quality by preventing microbial growth in storage facilities.

##### Contribution:

Solar Cooling Systems: CSP can drive absorption chillers and other solar cooling technologies to maintain optimal temperatures in water storage facilities.

##### CSP Desalination in Saudi Arabia:

* + Project: Al Khafji Solar Desalination Plant
  + Description: Utilizes CSP to power a desalination plant producing up to 60,000 cubic meters of potable water per day.
  + Impact: Provides a sustainable water source in an arid region, reducing reliance on conventional energy sources.

1. CSP-Powered Water Pumping in India:
   * Project: Solar Water Pumping Systems for Agriculture
   * Description: Implementation of CSP-powered pumps to irrigate agricultural fields in rural areas.
   * Impact: Increased agricultural productivity and reliable water supply for farming communities.
2. Wastewater Treatment in California, USA
   * Project: Solar-Powered Wastewater Treatment
   * Description: CSP systems provide heat and electricity for advanced wastewater treatment processes
   * Impact: Sustainable wastewater management and water reuse, reducing environmental impact.

CSP technology offers a versatile and sustainable solution for improving water facilities and ensuring the availability of safe drinking water. Its applications in desalination, water pumping, wastewater treatment, rural electrification, and water storage cooling demonstrate its potential to address water scarcity and quality issues, particularly in sun-rich regions. By integrating CSP into water management strategies, communities can achieve greater water security, environmental sustainability, and economic development.

# CHAPTER-9 CONCLUSION

## CONCLUSION

The comprehensive approach to improving water facilities and ensuring drinking water availability, supported by innovative technologies like CSP and community-driven strategies, has demonstrated considerable success. The project’s achievements in increasing access to safe water, enhancing water quality monitoring, and fostering sustainable water management practices have had a transformative impact on the targeted communities

Moving forward, continued investment in these initiatives, coupled with robust monitoring and evaluation, will be crucial in sustaining these gains and expanding their reach.

The West's water needs are changing. Rapidly increasing economic and population growth in urban areas has generated corresponding increases in demand for augmentation of water supplies. Irrigation, by far the largest water use, remains a mainstay of some local and state economies. Perhaps the most rapidly escalating call for water is motivated by concern for environmental and recreational values, values not protected by law or public advocacy in the early evolution of western water allocation. These increasing and shifting patterns of demand are being exerted on a resource already fully appropriated in most of the region.

The committee believes that voluntary water transfers are the single most significant tool available for responding to these new and changing water needs. It is nevertheless the case that transfers sometimes are proposed without proper regard for third party interests. Based on its review of the potentially adverse impacts of water transfers, this committee concludes that third party interests deserve greater consideration when transfers are proposed. While seeking ways to promote transfers, state and tribal governments should also devise ways to improve their laws and procedures to protect third parties. Federal agencies involved in water allocation and management should also promote transfers and protect third party

# CHAPTER-10

**LINK OF EVERY WEEK PICS AND VIDEOS**

## GALLERY

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**Video links:**

### <https://drive.google.com/file/d/19wThNrs0l0dbzfQjhOr4U1Ae-RO_AIEp/view?usp=drivesdk>

## REFERENCES

* **https://**[**www.sciencedirect.com/topics/earth-and-planetary-**](http://www.sciencedirect.com/topics/earth-and-planetary-) **sciences/drinking-water-supply**
* **https://**[**www.unicef.org/india/what-we-do/clean-drinking-water**](http://www.unicef.org/india/what-we-do/clean-drinking-water)
* **https://**[**www.cdc.gov/healthywater/emergency/drinking/community-**](http://www.cdc.gov/healthywater/emergency/drinking/community-) **water-systems.html**
* **https://csrbox.org/India\_CSR\_Project\_Power-Grid-Corporation-of- India-Ltd-Drinking-Water-Facilities-West-Bengal\_7302**