



**Environment Audit Report  
Rise Krishna Sai Gandhi Group of  
Institutions - Ongole  
Year 2022-23**



# **ENVIRONMENT AUDIT REPORT**

## **CONSULTATION REPORT**



**RISE KRISHNA SAI GANDHI  
GROUP OF INSTITUTIONS  
ONGOLE, VALLURU  
Andhra Pradesh- 523272**

**PREPARED BY**

**EMPIRICAL EXERGY PRIVATE LIMITED**

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**Year: 2022-23**



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## **ACKNOWLEDGEMENT**

**Empirical Exergy Private Limited (EEPL), Indore** takes this opportunity to appreciate & thank the management of **Energy Audit Report Rise Krishna Sai Gandhi Group of Institutions, Ongole** for giving us an opportunity to conduct energy audit for the college .

We are indeed touched by the helpful attitude and co-operation of all faculties and technical staff, who rendered their valuable assistance and co-operation the course of study.

**Rajesh Kumar Singadiya**

**(Director)**


M.Tech (Energy Management), PhD (Research Scholar)  
Accredited Energy Auditor [AEA-0284]  
Certified Energy Auditor [CEA-7271]  
(BEE, Ministry of Power, Govt. of India)  
Empanelled Energy Auditor with MPUVN, Bhopal M.P.  
Lead Auditor ISO50001:2011 [EnMS) from FICCI, Delhi  
Certified Water Auditor (NPC, Govt of India)  
Chartered Engineer [M-1699118], The Institution of Engineers (India)  
Member of ISHRAE [58150]



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**Certificate of Accreditation**

 **BUREAU OF ENERGY EFFICIENCY**

Examination Registration No.: ..... **EA-7271** .....

Accreditation Registration No.: ..... **AEA-284** .....



**Certificate of Accreditation**

This is to certify that Mr./Ms. **Shri. Rajesh Kumar Singadiya** ..... having its trade/registered office at ..... has been given accreditation as accredited energy auditor. The certificate shall be effective from **9<sup>th</sup>** day of **May, 2018** .....


The certificate is subject to the provisions of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

This certificate shall be valid until it is cancelled under regulation 9 of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

On cancellation, the certificate of accreditation shall be surrendered to the Bureau within fifteen days from the date of receipt of order of cancellation.

Your name has been entered at AEA No. **284** ..... in the register of list of accredited energy auditors. Your name shall be liable to be struck out on the grounds specified in regulation 8 of the Bureau of Energy Efficiency (Qualifications for Accredited Energy Auditors and Maintenance of their List) Regulations, 2010.

Given under the seal of the Bureau of Energy Efficiency, Ministry of Power, this **5<sup>th</sup>** day of **October, 2018**

  
Secretary,  
Bureau of Energy Efficiency  
New Delhi



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## **Environment Audit Team**

The study team constituted of the following senior technical executives from **Empirical Exergy Private Limited, Indore**

- ✚ **Mr. Rakesh Pathak**, [Director & Electrical Expert]
- ✚ **Mr. Rajesh Kumar Singadiya** [Director & Accredited Energy Auditor AEA-0284]
- ✚ **Mr. Hemendra Khedekar** [Sr. Project Manager]
- ✚ **Mr. Ajay Nahra** [Asst. Project Engineer]
- ✚ **Mr. Charchit Pathak** [Project Engineer]
- ✚ **Mr. Praveen Puniyasa**[Electrical Engineer]



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## **EXECUTIVE SUMMARY**

The executive summary of the Environment audit report furnished in this section briefly gives the identified water conservation measures that can be implemented in a phased manner to water conservation and increase the productivity of the Institute.

### **Environmental Management Initiative Taken by Institute**

#### **RAIN WATER HARVESTING**

- ✚ **Rain Water Harvesting system:** - Institute has installed Rain Water Harvesting system in campus for increased ground water level - **Its appreciable**

#### **ENVIRONMENT AUDIT RECOMMENDATION**

##### **WATER MONITORING SYSTEM:**

- ✚ Installation of “**Cloud based (IoT based) ground water extraction monitoring system**” for well to quantify fresh water consumption per day in the institute campus.
- ✚ Install water flow meters (Mechanical or Electronics) in distribution network, like institute building, hostel building, for quantity per day water consumption and waste water generation in the institute campus.

##### **USE EFFICIENT WATER TAPS.**

- ✚ Water saving taps either reduce water flow or automatically switch off to help save water. So, it is highly recommended to install efficient water taps in institute campus to reduce water consumption.

##### **USE EFFICIENT URINAL TAPS.**

- ✚ Replacing these inefficient fixtures with water sense labeled flushing urinal can save between 0.5 to 04 liters per flush without sacrificing performance. Installing water saving flushing urinal will not only reduce water use in facilities but also save money on water bills.

##### **INSTALLATION OF WATER OVERFLOWS SENSOR IN TANKS: -**

- ✚ It was observed that water overflow in overhead tanks after tank filling. So, it is recommended installation of water overflow sensor to avoid water overflow.

##### **WATER QUALITY TEST.**

- ✚ Conduct water test for Drinking and Ground Water.
- ✚ Conduct water test for STP outlet.



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**CHAPTER-1  
INTRODUCTION**

**1.1 About Institute**

RISE Krishna Sai Gandhi Group of Institutions is one of the best institutions in the region of JNTUK, under the flagship of AICTE. It offers under graduate courses in Engineering. The Institution was established on 5th October 2009 by RISE which stands for Rural Institute of Social and Economic Empowerment. The captivating ambiance amidst panoramic scenic beauty all around would add glory to the face value of the campus. Since its inception, the institution has been flourishing in all aspects. RISE institution is bound together by a deep-rooted sense of excellence in education. Our commitment to quality in education, learning and research is uncompromising, and lived out in practice every day in our lecture halls, laboratories and libraries.

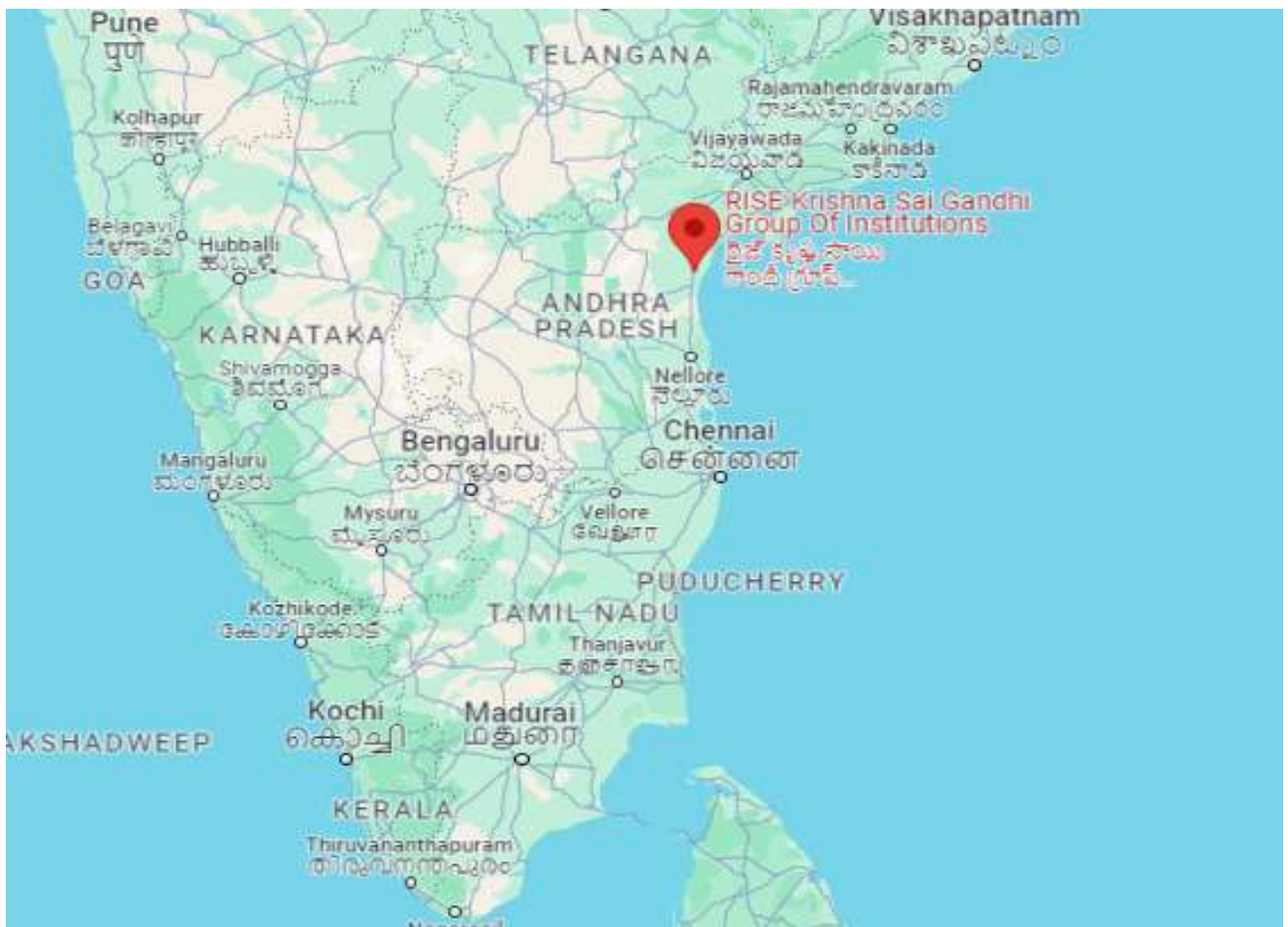


Fig.: 1.1 RISE Krishna Sai Gandhi Group of Institutions from Google map



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## VISION

"To create a community of engineers who blend ground breaking technologies with ethical responsibility, driving global innovations while championing sustainable solutions and community empowerment."

## MISSION

**M1:** Foster an inclusive academic setting that combines cutting-edge technology with ethical grounding.

**M2:** Inspire sustainable innovation by embedding environmental and social responsibility into our curriculum.

**M3:** Strengthen ties with industry and communities to ensure our engineers make a real world impact.

## CORE VALUES

**Integrity:** Upholding honesty and ethical standards in all endeavors.

**Innovation:** Encouraging creative thinking and cutting-edge solutions.

**Collaboration:** Promoting teamwork and interdisciplinary partnerships.

**Excellence:** Striving for the highest quality in education and research.

**Responsibility:** Committing to sustainable practices and community betterment.





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### 1.2 Institute Build-up area

S. No.	Area	Area in sq. m.
	Total Campus Area	41,197 sq. m.
	Buildup area in campus	9910 m.

### 1.3 Institute Population

S. NO.	Category	Total Numbers
1	Total No. of Student	<b>1027</b>
2	Total No. of Teaching Faculty	<b>71</b>
3	Total No. of Non-Teaching Staff	<b>57</b>

### 1.4 Aims & Objectives of Institute

- ✚ The college aims at personalized training of young students through Integral Pedagogy – Context, Experience, Reflection, Action and Evaluation –to be well motivated teachers who would be intellectually competent, morally upright, socially committed and spiritually inspired.
- ✚ It is the aim of the college that the students who take their training here become well-formed guides with human qualities (pupil-teachers with human touch). The college, therefore, offers an all-round training, one that is at once intellectual, cultural, social, emotional, physical, aesthetic, moral and spiritual.
- ✚ The college further aims at promoting values such as respect for Indian common cultural heritage, egalitarianism, democracy, secularism, national unity, respect for religious and moral values gender equality, environment protection, removal of social barriers, responsible use of cybernetics & mass media, transparency and probity in private and public life.



# Environment Audit Report

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### 1.5 Institute Layout

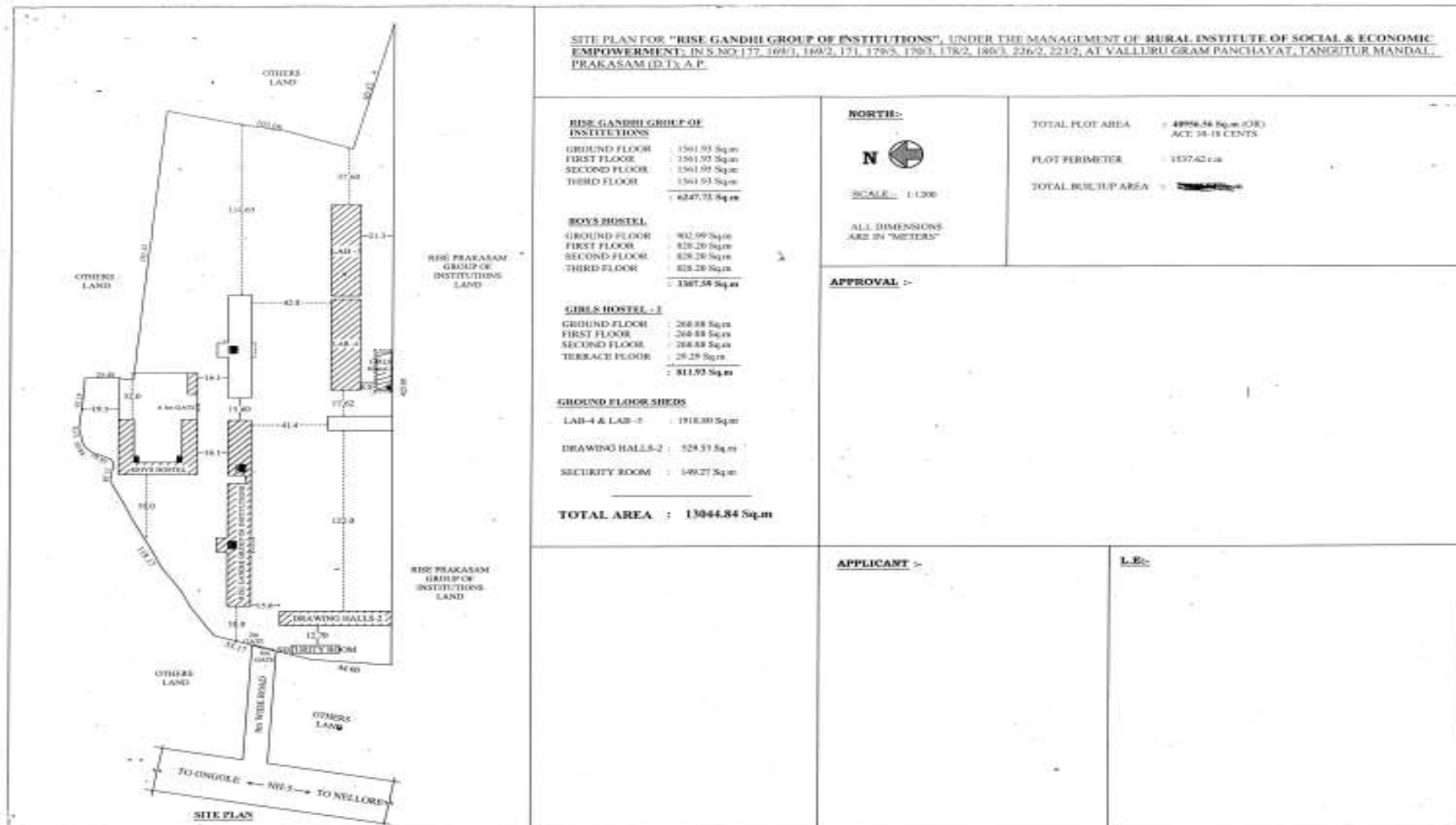


Fig.-1.2 Layout map of Institute campus



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## 1.6 Green Audit Committee

### RISE KRISHNA SAI GANDHI GROUP OF INSTITUTIONS

[Approved by AICTE, New Delhi and affiliated to JNTUK, Kakinada]  
NH-16, Valluru - 523 272, ONGOLE, Prakasam Dt., A.P.

Cnr : 95028 35078  
70933 83858

E-mail: rise\_gandhi@yahoo.com  
www.risegroup.edu.in

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**Dr. K.V. Subrahmanyam**  
M.Tech, Ph.D, MISTE, FIE, FIETE  
Principal

Dt: 05.06.23

**Constitution of Committee for Energy/Environment/Green**

In view of Environment impact assessment & procedure for situation urgent-action regarding regular assessment of pollution soil degradation & waste management following committee are required to be constituted for saving the environment w.e.f. date of issue, for the period of three years.

Name of the Committee	Proposed name of the members
1. Energy Audit	1. Smt M.Sireesha 2. Smt B Lavanya 3. Mr Naga Suresh
2. Environmental Audit	1. Mr N Madhu Babu 2. Mr V Anjaneyulu 3. Mr P Rajasekhar.
2. Green Audit	1. Mr.S V Ravi Kumar 2. Mrs.Silaja 3. Sk Meeravali

IGAC Coordinator  
 IGAC Co-ordinator

Principal  
 (Dr. K V Subrahmanyam)  
 PRINCIPAL  
 RISE KRISHNA SAI GANDHI  
 GROUP OF INSTITUTIONS  
 VALLURU:: ONGOLE.

Promoted by  
Rural Institute of Social & Economic Empowerment (RISE)



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### **1.7 About Environment Auditing**

Environment audits can be a highly valuable tool for institute in a wide range of ways to improve their energy, environment and economic performance. While reducing wastages and operating costs. Water audits provide a basis for calculating the economic benefits of water conservation projects by establishing the current rates of water use and their associated cost.

### **1.8 Objectives of Environment Audit**

The general objective of Environment audit is to prepare a baseline report on water conservation measures to mitigate consumption, improve quality and sustainable practices.

#### **The specific objectives are:**

- ✚ To monitor the water consumption and water conservation practices.
- ✚ To assess the quantity of water, usage, quantity of waste water generation and their reduction within the college.

### **1.9 Target Areas of Environment Audit**

This indicator addresses water sources, water consumption, irrigation, storm water, appliances and fixtures aquifer depletion and water contamination are taking place at unprecedented rates. It is therefore essential that any environmentally responsible institution should examine its water use practices.

## 1.10 Methodology followed for conducting Environment audit

### Step 1: Walk through survey

- ✚ Understanding of existing water sourcing, storage and distribution facility.
- ✚ Assessing the water demand and water consumption areas/processes.
- ✚ Preparation of detailed water circuit diagram.

### Step 2: Secondary Data Collection

- ✚ Analyses historic water use and wastewater generation
- ✚ Field measurements for estimating current water use
- ✚ Metered & unmetered supplies.
- ✚ Understanding of “base” flow and usage trend at site
- ✚ Past water bills
- ✚ Wastewater treatment scheme & costs etc.

### Step 3: Site Water Audit Planning (based on site operations and practices)

- ✚ Preparation of water flow diagram to quantify water use at various locations
- ✚ Wastewater flow measurement and sampling plan

### Step 4: Conduction of Detailed Environment Audit & Measurements

- ✚ Conduction of field measurements to quantify water/wastewater
- ✚ streamsPower measurement of pumps/motors
- ✚ Preparation of water balance diagram
- ✚ Establishing water consumption pattern
- ✚ Detection of potential leaks & water losses in the system
- ✚ Assessment of productive and unproductive usage of water
- ✚ Determine key opportunities for water consumption reduction, reuse & recycle.

### Step 5: Preparation of Environment Audit Report

- ✚ Documentation of collected & analyzed water balancing and measurement details
- ✚ Projects and procedures to maximize water savings and minimize water losses.
- ✚ Opportunities for water conservation based on reduce/recycle/reuse and recharge options



## CHAPTER-2 RAIN WATER HARVESTING

### 2.1 Rain water harvesting systems

The rainwater harvesting is a technique to capture the rainwater when it precipitates, store that water for direct use or charge the ground water and use it later.

There are typically four components in a rainwater harvesting system:

- ✚ Roof Catchment.
- ✚ Collection.
- ✚ Transport.
- ✚ Infiltration or storage tank and use.

If rainwater is not harvested and channelized its runoffs quickly and flow out through storm-water drains. For storm-water management the recharge pits, percolation pits and porous trenches are constructed to allow storm water to infiltrate inside the soil.

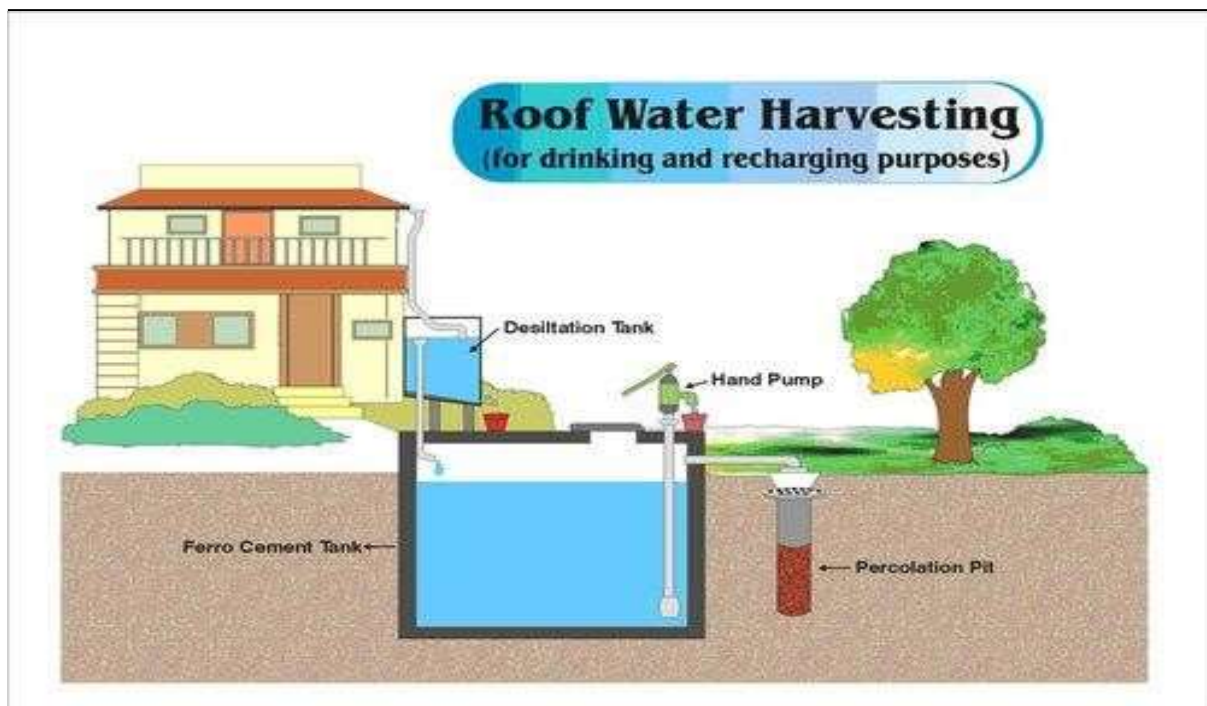


Figure: - 2.1 Components of a rooftop rainwater harvesting system



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## 2.2 Rain Water harvesting system in Institute

The institute is having rain water harvesting pits at different locations of Institute for ground water level. The dimensions of the pit are 6X6X6 feet. The institute cleans these pits periodically and using the organic rich mud for gardening purpose.- **It's Appreciable**

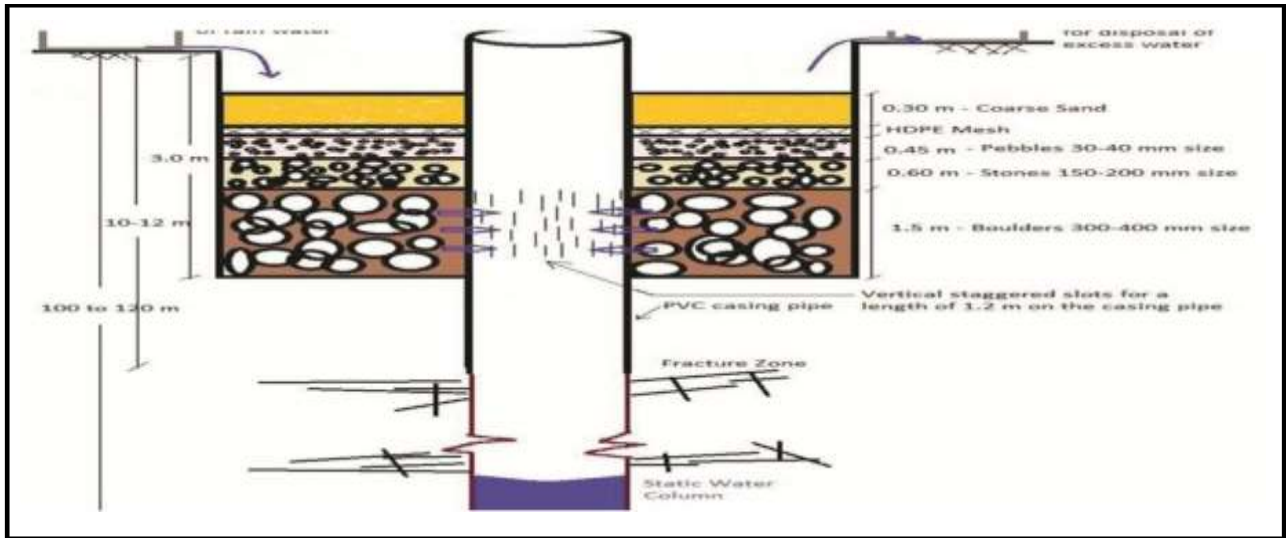


Fig.-2.2 Rain water collecting system of the institute



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**END OF THE REPORT**

**THANKS**