



- Re-accredited by NAAC at 'B<sup>++</sup>' Grade with 2.78 CGPA.
- Accorded 2(f) & 12B Status by UGC.
- Recipient of "Best College Award" by SRTM University Nanded.
- Sr. College Code No. 309 ● Jr. College Index No. 62.10.002

**Dr. Arvind M. Nawale**  
(M.A.Eng., Ph.D.)  
PRINCIPAL I/c.

Phone : 02385-256116

Website : <https://shivajicollegeudgir.in>

E-mail : [smusrcollege2007@rediffmail.com](mailto:smusrcollege2007@rediffmail.com)

## Best Practice-2

### 1) Title: "Sustainable Campus Living through Integration of Rainwater Harvesting, Energy Conservation, and Ecological Awareness"

#### 2) Objectives:

- Foster sustainability and eco-friendly campus culture.
- Educate on energy conservation, water efficiency, and waste reduction.
- Promote a pollution-free campus with clean air, water, and ecosystems.
- Produce renewable energy with solar panels to cut carbon emissions.
- Implement rainwater harvesting to mitigate water scarcity.
- Expand green spaces with tree planting and biodiversity enhancement.

#### 3) Context:

Located in a region susceptible to water scarcity and vulnerable to the impacts of climate change, our campus is uniquely positioned to lead by example in promoting sustainability and resilience. Through the integration of rainwater harvesting, energy conservation, and environmental awareness initiatives, we seek to address these challenges and create a campus environment that thrives in harmony with nature.

#### 4) The Practice:

Our institution has embarked on a multifaceted approach to sustainability, encompassing a wide range of initiatives aimed at reducing our environmental footprint and fostering a culture of environmental responsibility. These initiatives span infrastructure improvements, educational programs and community engagement efforts, all geared towards promoting sustainable living and environmental stewardship.

#### Key Practices Implemented:

- Installation of a 45 KW solar power plant to generate renewable energy, supplemented by energy-efficient LED lighting and appliances throughout campus.
- Implementation of rainwater harvesting systems and borewell recharge mechanisms to capture and store rainwater and groundwater replenishment.
- Conducting regular energy and green audits to identify opportunities for energy savings, resource efficiency, and emissions reduction.
- Replacement of traditional desktop monitors with energy-efficient LED monitors, reducing energy consumption and electronic waste generation.
- Adoption of Star-rated equipment and energy-efficient appliances campus-wide, including HVAC systems, refrigeration units, and other appliances.
- Installation of a solar water heating system to meet the hot water needs of hostel residents, reducing reliance on fossil fuels for water heating.

- Deployment of LED lights and energy-efficient lighting solutions across campus, improving visibility and safety while reducing energy consumption and light pollution.
- Implementation of a comprehensive waste management system, including waste segregation, recycling, and composting initiatives, to minimize landfill waste and promote resource recovery.
- Reduction of plastic usage through campus-wide policies and initiatives and the promotion of reusable alternatives.

## 5) Evidence of Success:

The success of our sustainability initiatives is evident in several key indicators:

- Maximum utilization of solar energy, resulting in minimal to no energy bills and a significant reduction in gas emissions.
- Increased groundwater levels and mitigation of water scarcity through rainwater harvesting, contributing to improved water resilience and sustainability.
- Enhanced environmental awareness and consciousness among students, faculty, and staff, leading to changes in behavior and lifestyle choices that prioritize sustainability and environmental responsibility.
- Positive feedback from the campus community regarding the adoption of sustainable practices, indicating widespread support and engagement with sustainability efforts.

By integrating rainwater harvesting, energy conservation, and environmental awareness initiatives, we have created a model eco-friendly campus that serves as a beacon of hope and inspiration for future generations. Moving forward, we remain dedicated to advancing our sustainability agenda, collaborating with stakeholders, and leading by example in creating a more sustainable and resilient future for all.

## 6) Challenges Encountered:

The geographic location limitations affecting the feasibility and cost-effectiveness of certain practices, such as rainwater harvesting and renewable energy generation and the initial investment costs associated with purchasing and installing infrastructure were problems we have encountered with. However, we got through these problems and came out stronger and more motivated than ever.



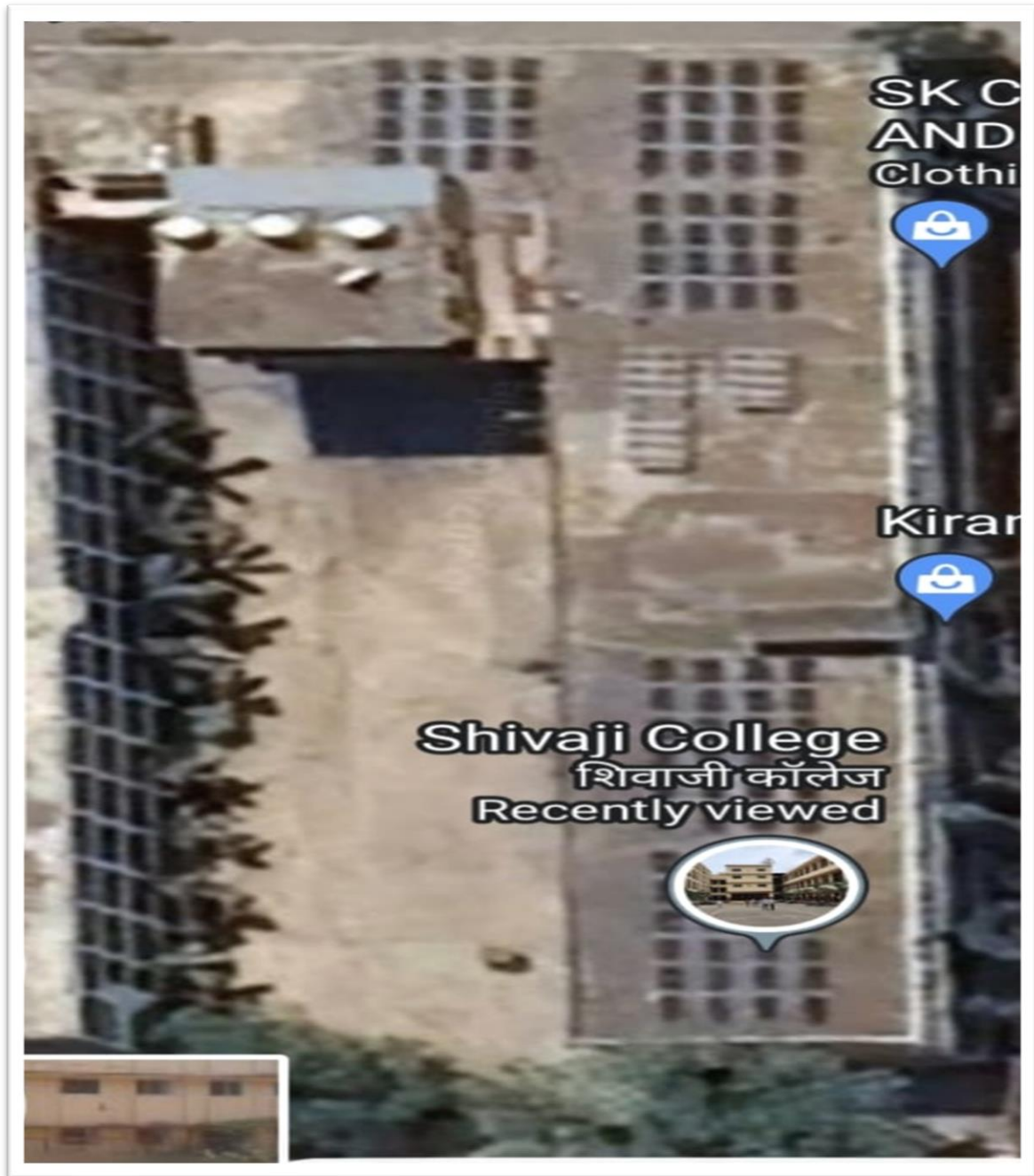
**Co-ordinator, NAAC**  
Shivaji Mahavidyalaya, Udgir




**PRINCIPAL**  
Shivaji Mahavidyalaya,  
Udgir Dist. Latur

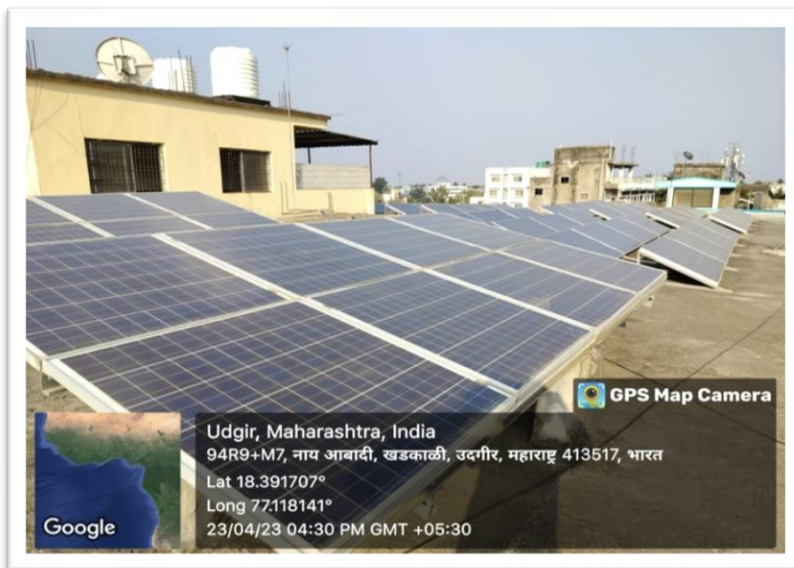
## Alternative Source of Energy Conservation

Alternative Source of Energy Conservation: Solar Panels Satellite image of 15+15 Kw solar power unit on the roof of Shivaji Mahavidyalaya Udgir

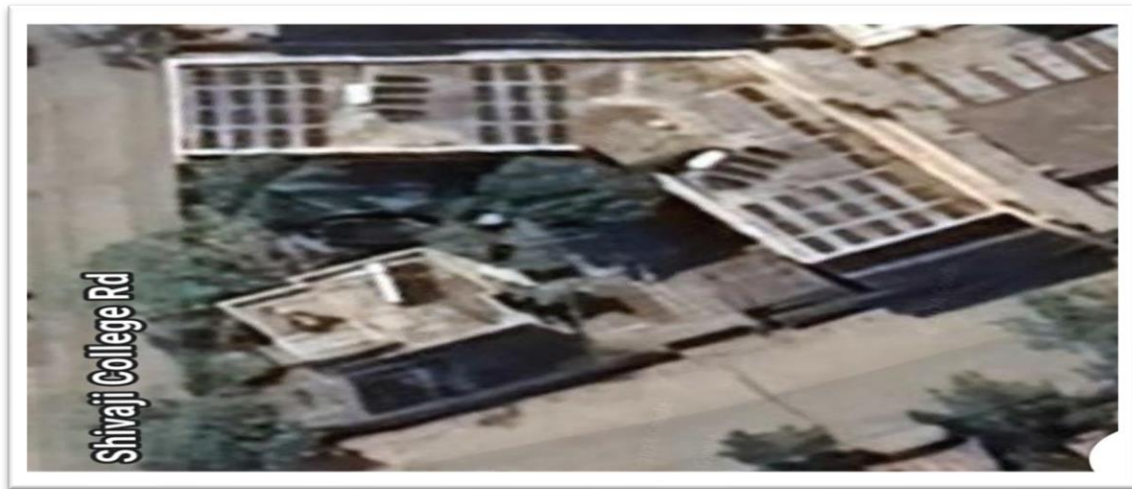


**15 Kw + 15 Kw = 30 Kw Solar Power installed on the roof of the College Campus**





**Satellite Image of 15 Solar Power Unit On the Roof of Jijamata Girls Hostel of Shivaji Mahavidyalaya Udgir**



**15 Kw Solar Power installed on the roof of Jijamata Girls Hostel**





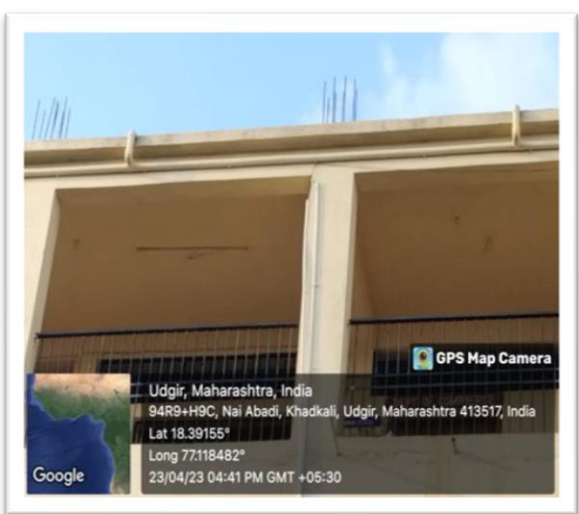
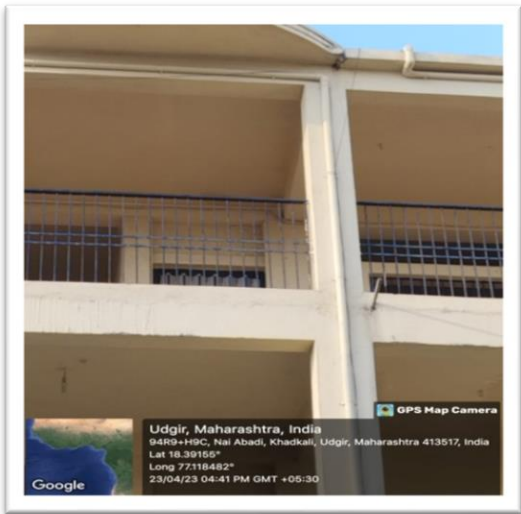
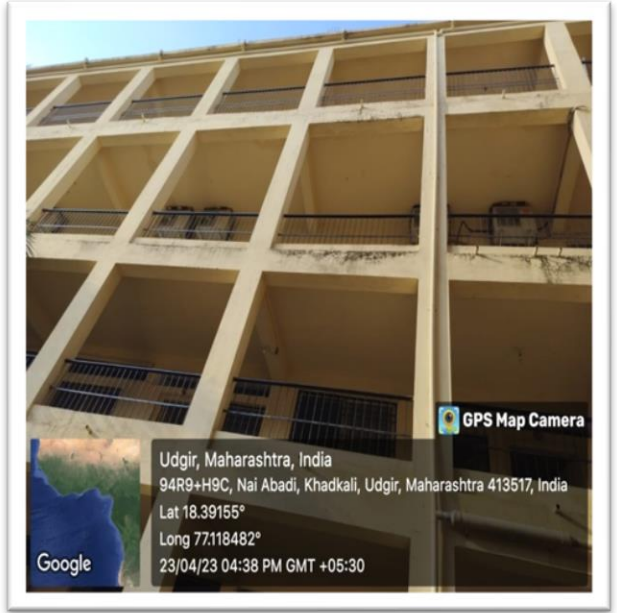
# Inverter with Batteries

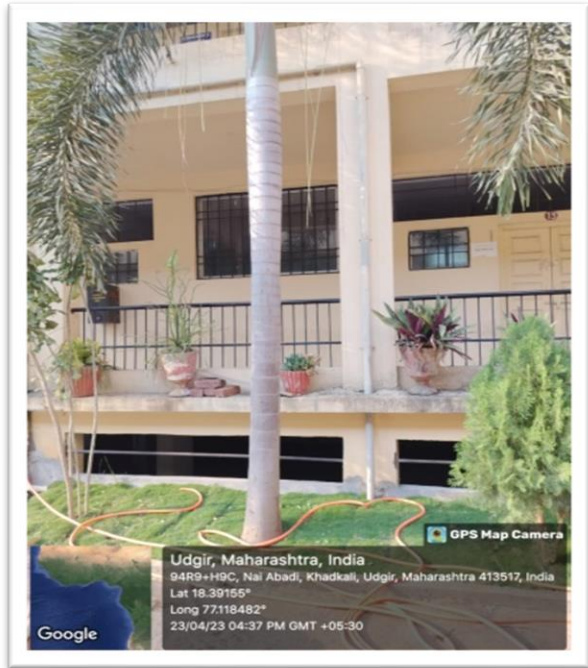




# Rain water Harvesting

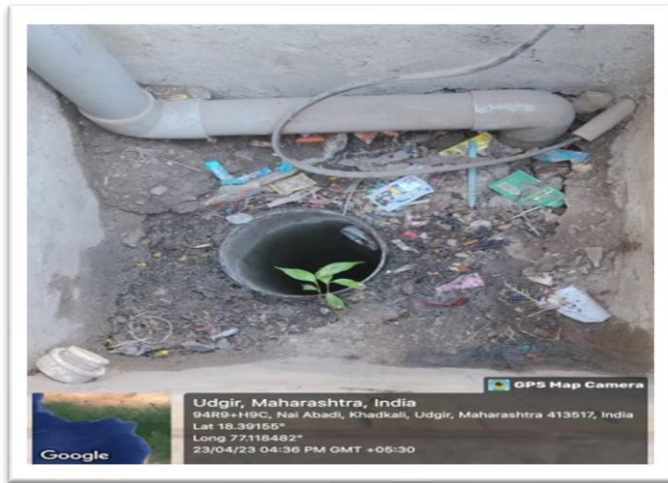
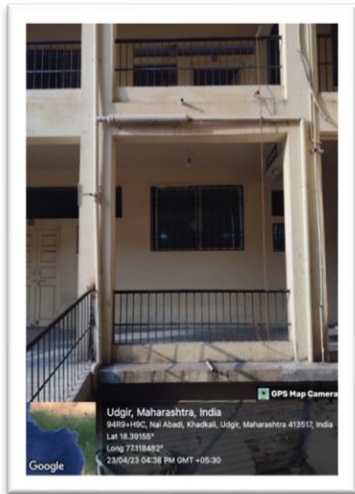
## Rainwater harvesting: Roof water collection pipe system





**Borewell Recharge**

**Bore well Recharge in the Campus of Shivaji Mahavidyalaya**



## Borewell Recharge in Jijamata Girl Hostel



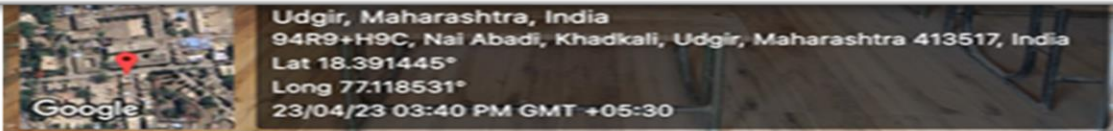
## R.O. filtration Plant installed in campus For Pure Healthy Drinking Water and Water Conservation.





Udgir, Maharashtra, India  
94R9+H9C, Nai Abadi, Khadkali, Udgir, Maharashtra 413517, India  
Lat 18.391445°  
Long 77.118531°  
23/04/23 05:20 PM GMT +05:30

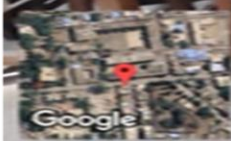
GPS Map Camera



Udgir, Maharashtra, India  
94R9+H9C, Nai Abadi, Khadkali, Udgir, Maharashtra 413517, India  
Lat 18.391445°  
Long 77.118531°  
23/04/23 03:40 PM GMT +05:30

GPS Map Camera

### Natural light in Laboratories

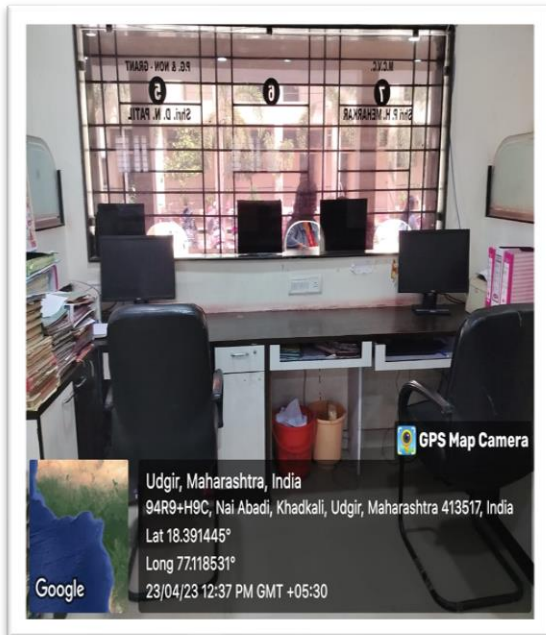


Udgir, Maharashtra, India  
94R9+H9C, Nai Abadi, Khadkali, Udgir, Maharashtra 413517, India  
Lat 18.391445°  
Long 77.118531°  
23/04/23 05:20 PM GMT +05:30

GPS Map Camera



**Desktop monitors are replaced with LED monitors to conserve energy.**





**Use of Star-rated equipment**





### Solar water heating system

Solar Water Heating system of 1500 LPD was installed to cater to the needs of hostel students.

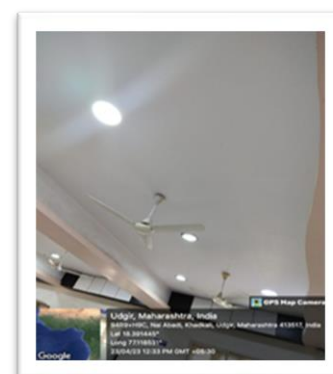
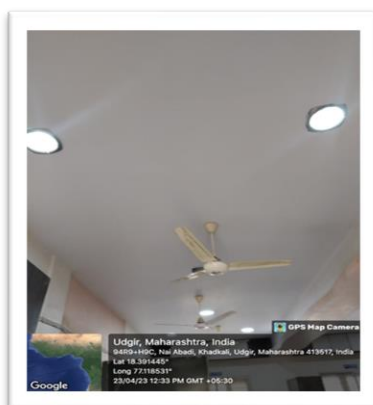
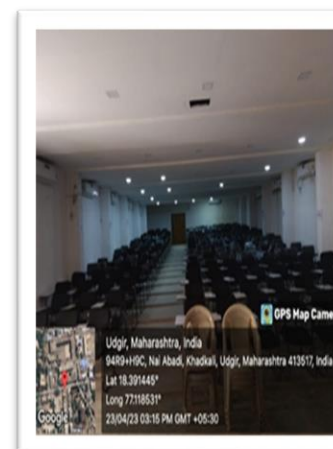
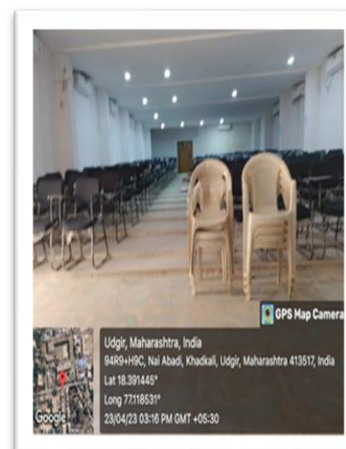
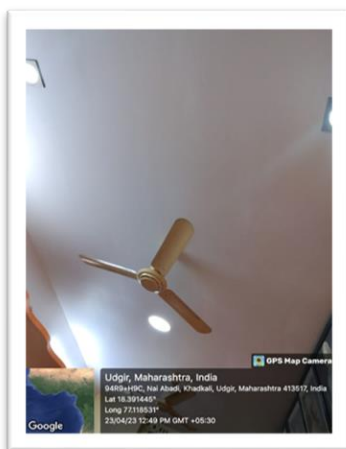
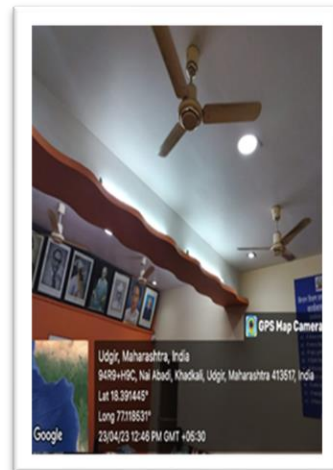
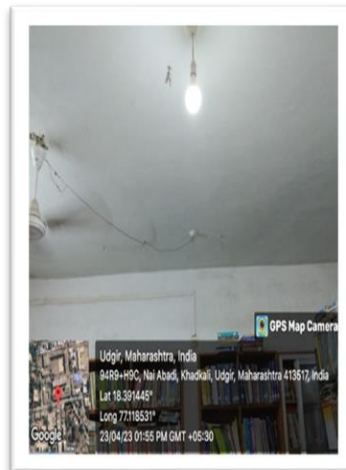




Use of LED bulbs for energy conservation



- 175+ LED bulbs of 20 W and 247+ LED lights of 40 W were installed.

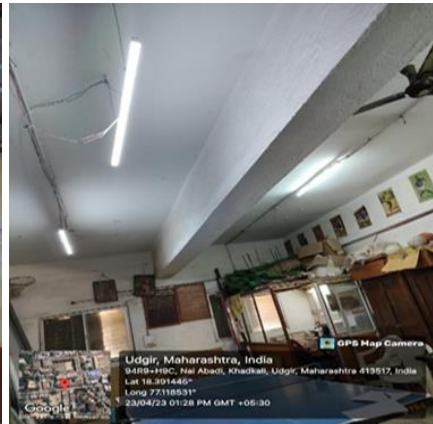


# Use of LED Tubes For Energy Conservation

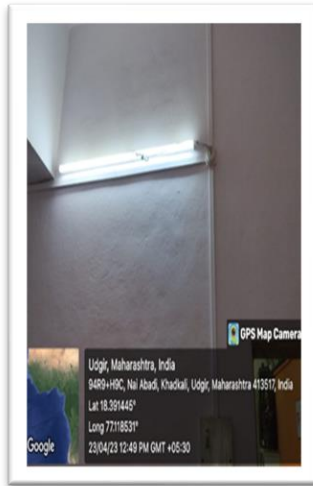
## LED tubes in Canteen



## LED tubes in Sports



## LED Tubes in Library



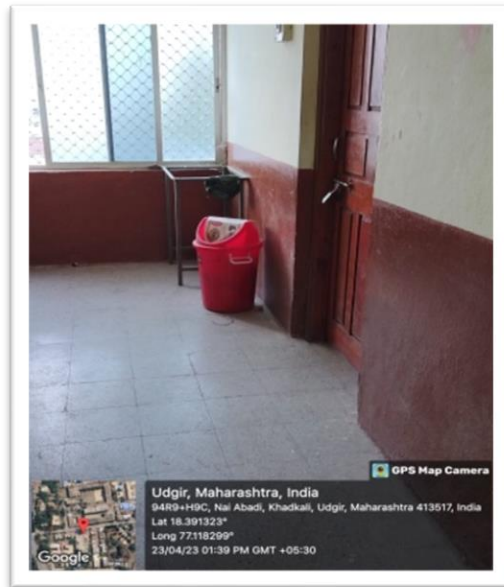
# Waste recycling system

- Waste recycling system for solid and liquid waste generated in the campus

## Vermiculture Unit in College Campus



## Waste Collection Bins in Jijamata Girls hostel





### Waste Collection Tanks in College Campus



## Occasional Transportation of Nondegradable Waste by Municipal Council Vehicle



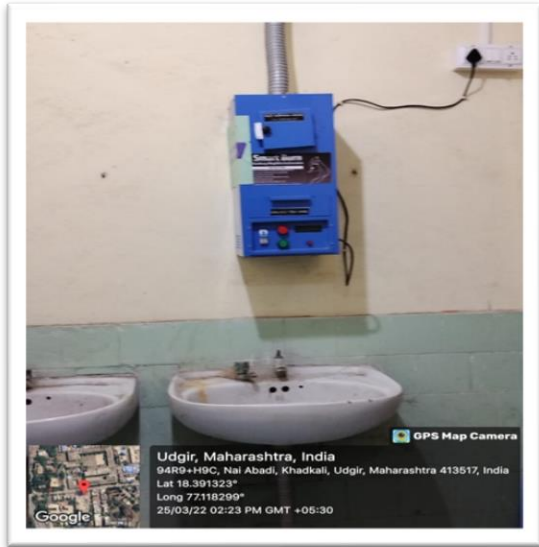
## Management of chemical waste

The chemical waste generated by Chemistry, Botany, Zoology, and Micro Biology is properly treated to ensure benign pH values for disposal in soak pits prepared at Dnyan Pandhari extended campus



## Incinerator Machines

Incinerator machines (Sanitary Pad burning Machine installed in Girls hostel) for the purpose of women's hygiene.



## Vermicompost production

Vermicompost production from Biodegradable waste generated from Shivaji Mahavidyalaya campus and Jijamata girls hostel in the Department of Zoology



Demonstration of Filling of Vermicomposting Bin at Dept of Zoology(COC vermiculture)



## National Energy Conservation Day Celebration Program



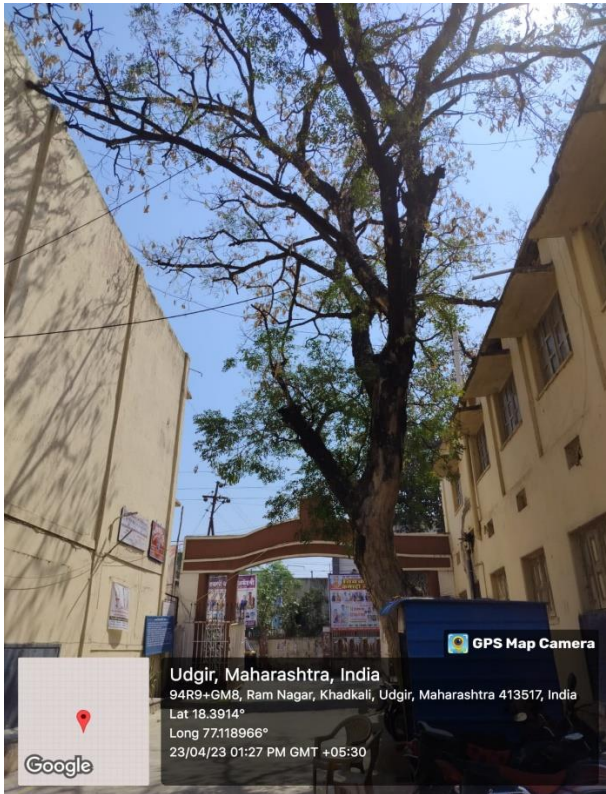
## Youth Program “Efficient Use of Energy & Resources”





## Trees Plantation in College Campus





## ❖ Energy Audit Certificate ❖

This is to certify that following utility has carried out College building Energy Audit . in recognition of the organizations efforts for sustainable development.

Name of the Institute	: SHIVAJI MAHAVIDYALAYA Udgir Dist. Latur (Maharashtra)
Date of Energy Audit	: 17/03/2022
Name of Energy Auditor	: <b>KEDAR KHAMITKAR</b> Certified by BEE (Bureau of Energy Efficiency) Ministry of Power, Govt. of India
Registration No	: EA - 8287

Empaneled Energy Auditor & Planner

Reg no. MEDA/LCN/CR-14/2020-21/EA-17

महाराष्ट्र ऊर्जा विकास अभिकरण  
(Govt. of Maharashtra Institution)



*Kedar*  
**Kedar Khamitkar**  
Energy Auditor CEA-8287  
Certified by BEE,  
Ministry of Power, Govt. of India



**Kedar Khamitkar & Associates, Latur**  
Empanelled with Mahaurja, Govt of Maharashtra Institution

Certificate No : EA/020



Note : Certificate is based on organisation compliance on energy audit recommendations and continual maintenance of the system & conduction of surveillance audit

# ❖ Energy Audit Certificate ❖

This is to certify that following utility has carried out  
College building Energy Audit  
in recognition of the organizations efforts for  
sustainable development.

Name of the Institute	: SHIVAJI MAHAVIDYALAYA Udgir Dist. Latur (Maharashtra)
Date of Energy Audit	: 24.04.2023
Name of Energy Auditor	: KEDAR KHAMITKAR Certified by BEE (Bureau of Energy Efficiency) Ministry of Power, Govt. of India
EA Certificate No . EA/04/2023/012/SMU	: 

Empaneled Energy Auditor & Planner

Reg no. MEDA/ECN/CR-14/2020-21/EA-17

महाराष्ट्र ऊर्जा विकास अभिकरण  
(Govt. of Maharashtra Institution)



*Kedar*  
**Kedar Khamitkar**  
Energy Auditor CEA-8287  
Certified by BEE,  
Ministry of Power, Govt. of India



**Kedar Khamitkar & Associates, Latur**  
Empanelled with Mahaurja, Govt of Maharashtra Institution



**ISO 9001-2015 Certified**



Note : Certificate is based on organisation compliance on energy audit  
recommendations and continual maintenance of the system & conduction of surveillance audit

# GREEN AUDIT CERTIFICATE

*This certificate has been awarded to*

**SHIVAJI MAHAVIDYALAYA**  
Udgir Dist. Latur (Maharashtra)

*in recognition of the organizations efforts for  
sustainable development.*



GA Certificate No . : GA/04/2023/013/SMU

Empanelled with

**महाऊर्जा**

महाराष्ट्र ऊर्जा विकास अभिकरण  
(Govt. of Maharashtra Institution)  
Reg no. MEDA/ECN/CR-14/2022-23/EA-07



*Kedar*

**Kedar Khamitkar**  
Energy Auditor CEA-8287  
Certified by BEE,  
Ministry of Power, Govt. of India



**Kedar Khamitkar & Associates, Latur**  
Empanelled with Mahaurja, Govt of Maharashtra Institution



ISO 9001-2015 Certified

Issued Date : 25/04/2023



Note : Certificate is based on organisation compliance on green audit  
recommendations and continual maintenance of the system & conduction of surveillance audit

## Green Audit Certificate

This certificate has been awarded to  
**M/s Shivaji Mahavidyalaya**  
Tq. Udgir, District: Latur, State: Maharashtra, Pin Code: 413517  
in recognition of the organizations efforts for  
sustainable development.

Empaneled Energy Auditor & Planner

Reg. no. MEDA/CNCE-14/2020-21/EA-17

महाराष्ट्र शासन  
महाराष्ट्र शासन  
(Govt. of Maharashtra Institution)



*Kedar C. Khamitkar*  
**Kedar Khamitkar**  
Energy Auditor CEA-8287  
Certified by BEE,  
Ministry of Power, Govt. of India



ISO 9001-2015 Certified



**Kedar Khamitkar & Associates, Latur**  
Empanelled with Maharashtra, Govt of Maharashtra Institution

Issued Date : 25/03/2022

**Kedar Khamitkar & Associates, Latur**  
Empanelled with Maharashtra, Govt of Maharashtra Institution



Note : Certificate is based on organisation compliance on green audit recommendations and continual maintenance of the system & conduction of surveillance audit

*[Signature]*

**Co-ordinator, NAAC**  
Shivaji Mahavidyalaya, Udgir



*[Signature]*

**PRINCIPAL**  
Shivaji Mahavidyalaya,  
Udgir Dist. Latur