



अपंग महिला मंडळ, अमरावती (शाहूपुरी, सातारा) संचलित  
**श्री कासाईदेवी केंद्रीय एस.सी. प्रा./माध्य.**  
**निवासी आश्रमशाळा, अंधारी (कास) फळणी,**  
ता. जावली, जि. सातारा

# Project Report

## Installation

of

## Solar Water Heating System

At

**Shri Kasaidevi Central SC Primary &  
Secondary Residential School, Andhari (Kas)  
Phalani, Taluka Javali, Dist. Satara.**  
(Central Govt. Recognized, No. 11020(13)-19/2012 SCD)

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**श्री कासाईदेवी केंद्रीय एस.सी. प्रा./माध्य. निवासी आश्रमशाळा,**  
**अंधारी (कास) फळणी** ता. जावली, जि. सातारा

### CSR प्रकल्प : सोलर वॉटर हीटिंग सिस्टम

कासाईदेवी आश्रमशाळा - 100 व्यक्तींसाठी - 2000 लिटर

**प्रकल्पाचा उद्देश**

- आश्रमशाळेतील 100 विद्यार्थ्यांनी व कर्मचाऱ्यांसाठी गरम पाण्याची शाश्वत व परवडणारी व्यवस्था उपलब्ध करणे.
- सौरऊर्जेच्या माध्यमातून स्वच्छ, सुरक्षित आणि पर्यावरणपूरक गरम पाण्याचा पुरवठा सुनिश्चित करणे.

**प्रकल्पाचे लाभ**

- ✓ विद्यार्थी व कर्मचाऱ्यांना दररोज गरम पाण्याची सुविधा.
- ✓ आंदोल, स्वच्छता आणि स्वयंपाकासाठी उपयुक्त.
- ✓ इंधन खर्चात मोठी बचत.
- ✓ स्वच्छता व आरोग्य सुधारण्यास मदत.
- ✓ शाळेच्या शाश्वत विकासाचा चालना.

**पर्यावरणीय परिणाम**

- CO<sub>2</sub> दहणी सुमारे 3 ते 4 टन CO<sub>2</sub> उत्सर्जन घट
- जीवाणु इंधनाचा वापर कमी
- दीर्घकालीन आर्थिक बचत
- स्वच्छ, हरित व शाश्वत भविष्याकडे एक पाऊल

**प्रकल्प तपशील**

|                        |                                                                                                  |
|------------------------|--------------------------------------------------------------------------------------------------|
| क्षमता                 | : 2000 लिटर प्रति दिवस                                                                           |
| लाभार्थी               | : 100 व्यक्ती                                                                                    |
| तंत्रज्ञान             | : सोलर वॉटर हीटिंग सिस्टम (फ्लॅट प्लेट कलेक्टर)                                                  |
| स्थापना ठिकाण          | : कासाईदेवी आश्रमशाळा                                                                            |
| पाण्याचे तापमान        | : 55°C - 60°C (सरासरी)                                                                           |
| सिस्टममध्ये समावेश     | : सोलर कलेक्टर, इन्सुलेटेड टँक, पंप, पाईपिंग, कंट्रोल युनिट, सेफ्टी वॉल्व्ह व इतर आवश्यक साहित्य |
| अंदाजे प्रकल्प कालावधी | : 3 - 4 आठवडे                                                                                    |
| देखभाल                 | : कमी देखभाल, दीर्घकालीन व टिकाऊ                                                                 |

**सिस्टमचे चित्र (प्रातःनिधिका आकृती)**

**CSR अंतर्गत मूल्यवर्धन**

- समाजातील वंचित घटकांसाठी मूलभूत सुविधा उपलब्ध करणे.
- आरोग्य, स्वच्छता व शिक्षणाच्या गुणवत्तेत सुधारणा.
- नवीकरणीय ऊर्जेला वापर प्रोत्साहित करणे.
- आपल्या संस्थेची सामाजिक बांधिलकी व प्रतिमा बळवट करणे.

आपल्या सहकाऱ्यांनी कासाईदेवी आश्रमशाळेमध्ये स्वच्छ, सुरक्षित आणि शाश्वत गरम पाण्याची सुविधा उपलब्ध होईल.  
**धन्यवाद!**



## 1. Introduction to Andhari Ashramshala.

**Shri Kasaidevi Central SC Primary & Secondary Residential School, Andhari (popularly known as Andhari Ashramshala)** was founded in year 1997 by Mr. Rajaram Shelar from Satara, to help the backward and downtrodden students belonging to the socially disadvantaged members of the society. The school is administered under a government registered trust "**Apang Mahila Mandal, Amaravati (Satara)**", is located in Andhari (Phalani), a remote rural village in Satara District of western Maharashtra. It is surrounded by Sahyadri mountain range hills, overlooking the backwaters of Koyana Dam.

Permitted by the Central Government, this co-ed school enrolls children from some of the most backward areas, primarily of socially and economically disadvantaged families and provides them with all necessities including lodging, boarding, clothing, and education at **NO COST**. At present, **42 boys** and **38 Girls** have taken admission for Class 1 to Class 10, as per the authorization to house up to 100 students.

While the financial grants from government authorities help to fund a significant portion of on-going costs, these are inadequate to cover all the long term and infrastructural requirements of the school. This necessitates additional funding and donations in kind from external sources.

## 2. Proposed Project.

**Andhari Ashramshala** is located at an isolated area in Sahyadri mountain ranges (ahead of Kas Pathar), with dense jungle and inhospitable weather conditions. During winter (December to March), the area experiences minimum temperatures around 7 °C (44 °F) at night and maximum temperatures up to 25 °C (77 °F) during the day. Nights are quite chilly, while daytime remains pleasantly cool. After the monsoon, winter brings crisp, dry weather. Due to altitude (approx. 1,200 m), temperatures drop significantly after sunset.

The School is committed to providing a safe, secure and hygienic living environment for its students and staff members. With increasing health concerns in educational institutions, the installation of the Solar Water Heating System has become absolute essential.

The purpose of this project report is to seek financial and /or material support from individual donors, Government agencies/ Departments, Non-Government Organisations (NGOs) and renowned Corporates / Companies under their Corporate Social Responsibility (CSR) initiative.

The project reduces dependence on electricity and firewood, lowers costs, and promotes renewable energy adoption in line with SDG 7 (Affordable & Clean Energy), SDG 4 (Quality Education) and SDG 13 (Climate Action).

## 3. Objectives.

- Provide reliable hot water for daily needs of the students & staff; thereby improve the hygiene & living standards at Ashramshala.
- Reduce the operational costs of hot water consumption and its adverse environmental impact.
- Increase student attendance and reduce dropout rates.



- Demonstrate renewable energy technology to students aligning with SDG 4, SDG 7 and SDG 13.

#### 4. Demand Assessment.

The details of daily water requirement at the Ashramshala are as under:

- **Population:** Approx 100 residents (students & staff).
- **Daily hot water requirement:**
  - a. Bathing: 15 liters/person , total 1500 liters/day.
  - b. Kitchen & cleaning: Approx 500 liters/day.
  - c. **Total:** Approx 2000 liters/day at 50–60°C.
- **Number of Systems:** One (01) system of 2000 Liters per day (LPD) capacity, combined for boys hostel, girls hostel, staff quarters and kitchen.

#### 5. Technical Specifications.

The tentative specifications of the proposed Solar Water Heating System are as under:-

- **System Type:** SWH 2000 LPD PC System with Digital Controller (500 LPD x 4 Nos)
- **Capacity:** 2,000 LPD, at 50–60°C.
- **ETC Vacuum Tubes:** 32 each System, Total 4.
- **Storage Tank:** 2000 liters, Galvanized Iron with ceramic Coating, insulated.
- **Piping:** Insulated GI/CPVC pipes.
- **Safety Features:** Non-return valve, pressure relief valve, expansion tank.
- **Location:** Rooftop, south-facing, tilt approx. 20° (as per latitude of the site); Installation location shall be finalized during site survey (roof top of boys hostel or roof top of bathroom/ toilet block of Girls hostel).

#### 6. Budget Estimate (Tentative).

The total expenditure for 2000 LPD Solar Water Heating System including the system equipment, associated civil, electrical, plumbing work, logistics and installation and commissioning is estimated to be approx. Rs 5,68,500.00 (Rs Five Lakhs Sixty Eight thousand , five hundred only).

Salient details of the cot components are as under:



| Budget Estimate : Solar Water Heating System |                                                                          |     |                           |
|----------------------------------------------|--------------------------------------------------------------------------|-----|---------------------------|
| SN                                           | Description                                                              | Qty | Amount (Rs)<br>(Less GST) |
| <b>Part A</b>                                |                                                                          |     |                           |
| 1                                            | SWH 2000 LPD PC System with Digital Controller (500 LPD 4 QTY)           | 1   | 214,000.00                |
|                                              | CGST 2.5% + SGST 2.5%                                                    | 5%  | 10,700.00                 |
|                                              | <b>Sub Total Part A</b>                                                  |     | <b>224,700.00</b>         |
| <b>Part B</b>                                |                                                                          |     |                           |
| 2                                            | Plumbing Material + including 5000 ltr cold water tank (Approx)          | 1   | 95,500.00                 |
| 3                                            | Plumbing installation & commissioning                                    | 1   | 35,000.00                 |
| 4                                            | Electrical material & fitment charges for digital controller             | 1   | 12,000.00                 |
| 5                                            | HP Pump with Controlling Unit                                            | 1   | 27,000.00                 |
| 6                                            | Fabrication For 5000 ltr cold water tank (hight 26ft) (material + wages) | 1   | 145,000.00                |
|                                              | CGST 9% + SGST 9%                                                        | 18% | 56,610.00                 |
|                                              | <b>Sub Total Part B</b>                                                  |     | <b>371,110.00</b>         |
| 7                                            | Civil Work for 5000 ltr tank stand                                       | 1   | 25,000.00                 |
| 8                                            | Crane charges for 5000 ltr tank and stand installation                   | 1   | 15,000.00                 |
|                                              | <b>Grand Total</b>                                                       |     | <b>635,810.00</b>         |

Quotation dated 11 Jul 2026 from M/s Phoenix Solar Systems Private Limited, Satara is attached is attached herewith at Appendix A.

## 7. Funding & Support.

- CSR initiatives directly by Corporates/ companies.
- NGOs through their CSR partnerships with local industries.
- Individual donors.
- Support from Government agencies/ departments.



## 8. Implementation Plan.

- **Phase 1: Site Survey:** Assess rooftop space and structural strength.
- **Phase 2: Procurement:** Collectors, tank, piping, support structure.
- **Phase 3: Installation:** Mount collectors, connect piping, install tank.
- **Phase 4: Testing & Commissioning:** Ensure heating efficiency and safety compliance.
- **Phase 5: Training:** Staff trained for basic operation and maintenance.

## 9. Expected Outcomes.

The Solar water Heating system shall provide the following benefits:

- **Economic:** Reduced electricity/firewood expenses thus offering cost savings of approx ₹60,000/year in electricity/firewood expenses.
- **Environmental:** Reduces the deforestation, thereby reducing approx. 8–10 tons of CO<sub>2</sub> annually (SDG 13).
- **Health & Hygiene:** Reliable hot water improves sanitation and reduces smoke-related health issues.
- **Sustainability:** Promotes renewable energy adoption in rural education institutions.
- **Educational Value:** Students gain hands-on knowledge & exposure to renewable energy adoption & technologies (SDG 4 & SDG 7).
- **Increased School Attendance** due to sustainable infrastructure and better facilities for students.

## 10. Sustainability, Maintenance & Security.

- Effective warranty clause utilization for all installed equipment.
- Periodic cleaning of Collectors and regular maintenance of the system.
- Check the insulation and valves every 6 months.
- Annual maintenance contracts (AMC) for the system equipment shall be taken at later stage.
- Regular training updates shall be undertaken through on-line / regular class training for the teaching staff.
- System upgrades shall be catered for every 3–5 years through in-house budget allocation.



## 11. Conclusion.

Andhari Ashramshala provides completely free education, accommodation, uniform, food and healthcare to tribal, orphan and socially/ economically disadvantaged students from remote villages of Maharashtra. Most of these students are first generation learners whose families cannot afford basic educational facilities and hence have sent their wards to the Ashramshala.

The proposed Solar Water Heating System will provide sustainable hot water to students and staff members of Ashramshala, reduce operational costs, improve living standards, and serve as a model for renewable energy adoption in rural educational institutions.

Installation of the proposed system will significantly improve the student attendance due to better infrastructural facilities by the School. This will also enhance the trust of parents towards the school administration.

By supporting this project, CSR partners / donors/ NGOs will not only improve the school infrastructure but also transform the future of these children and their families through safe, secure & hygienic school environment.

## 12. Additional Details of Trust and School.

| Trust Registration Details                                                                                                        |                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  Trust Name                                    | अपंग महिला मंडळ, अम्मावती                                                                                                                                      |
|  PAN                                           | AABAA3090Q                                                                                                                                                     |
|  Trust Registration No.                        | एफ-३९४३ अम. (Reg. Date : १५/०३/१९९४)                                                                                                                           |
|  Maharashtra Public Trust Act Registration     | महाराष्ट्र / ३८४० / अम.                                                                                                                                        |
|  CSR-1 Registration No.                        | CSR00063551                                                                                                                                                    |
|  Income Tax Registration/ Approval (80G) – URN | AABAA3090Q26PN01<br>[2026-27 to 2030-31   Section: 354(3)(a)]                                                                                                  |
|  NITI Aayog Darpan ID                          | MH/2016/0104438                                                                                                                                                |
|  Office Contact No.                            | 9975506619, 9422400071                                                                                                                                         |
|  Official Address                              | Apang Mahila Mandal, Plot No. 8, Jay Vijay Housing Society,<br>Near Deshpande Maruti Mandir, Shahupuri, Satara, Maharashtra – 415 002.                         |
|  School Contact No.                            | 9405942947, 02168-295194                                                                                                                                       |
|  School Address                                | Shri Kasaidevi Kendriy SC Primary & Secondary Residential School,<br>Andhari-Phalni, Near BSNL Tower, Taluka : Jaoli, Dist : Satara,<br>Maharashtra – 415 013. |
|  Email Address                                 | <a href="mailto:contactus@kasaideviashramschool.org">contactus@kasaideviashramschool.org</a>                                                                   |
|  Website                                       | <a href="https://kasaideviashramschool.org/">https://kasaideviashramschool.org/</a>                                                                            |



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# PHOENIX SOLAR SYSTEMS PVT LTD

51, DESHMUKH COLONY, SADAR BAZAR,

SATARA - 415001(MAHARASHTRA)

CELL - 9422038284, OFFICE - (02162) 230383,9423864592.

Date: 11/07/2026

To,  
Shri Kasaidevi Kendriy SC Primary & Secondary Residential School,  
Andhari-Phalni, Near BSNL Tower, Taluka : Jaoli, Dist : Satara,  
Maharashtra - 415 013.

**Subject:** Quotation for Phoenix Solar Water Heater 2000 LPD GI ETC.

Dear Sir,

We are giving you quotation for Solar Water Heater 2000 LPD GI ETC for your requirement

## QUOTATION

| SYSTEMS NAME                                                                             | QTY | SPECIFICATION                                                                                                                                                                                                                                                                                                                                                                                                            | AMOUNT (IN INR)        |
|------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>PART A</b><br>SWH 2000 LPD PC<br>System with Digital<br>Controller<br>(500 LPD 4 QTY) | 1   | <b>INNER TANK:-</b> Galvanized Iron with ceramic<br>Coating<br><b>THICKNESS:-</b> 1.5 MM, inner side dish 2mm<br><b>OUTER CLADDING:-</b> GI Powder Coated<br><b>THICKNESS:-</b> 0.5 MM<br><b>INSULATION:-</b> 50MM, PUF <b>BRACKET:-</b> MS Angle<br>with PP (Pure Polyester) Powder Coated<br><b>ETC VACCUM TUBES:-</b> -32 Each System<br><b>SIZE:-</b> 58mm OD X 2100mm length<br><b>TYPE:-</b> Three layer Blue tube | <b>Rs.2,14,000.00</b>  |
| Total Amount - PART A                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Rs.2,14,000.00</b>  |
| CGST 2.5% on PART (A)                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Rs.5,350.00</b>     |
| SGST 2.5% on PART (A)                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Rs.5,350.00</b>     |
| <b>Total Amount After<br/>CGST &amp; SGST</b>                                            |     |                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Rs. 2,24,700.00</b> |
| <b>PART B</b><br>1.Plumbing Material +<br>including 5000 ltr cold<br>water tank (Approx) |     |                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Rs.95,500.00</b>    |
| 2.Plumbing installation<br>and commissioning                                             |     |                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Rs.35,000.00</b>    |
| 3.Electrical material &<br>wages (Approx) for digital<br>controller only                 |     |                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Rs.12,000.00</b>    |
| 1 Hp Pump with<br>Controlling Unit                                                       |     |                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Rs. 27,000.00</b>   |
| Fabrication For 5000 ltr<br>cold water tank (hight<br>26ft) (material + wages)           |     |                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Rs.1,45,000.00</b>  |
| <b>Total Amount - PART B</b>                                                             |     |                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Rs. 3,14,500.00</b> |
| CGST 9% Extra on PART<br>B                                                               |     |                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Rs.28,260.00</b>    |

|                                                                                         |  |  |                        |
|-----------------------------------------------------------------------------------------|--|--|------------------------|
| SGST 9% Extra on PART B                                                                 |  |  | <b>Rs.28,260.00</b>    |
| <b>Total Amount After CGST &amp; SGST</b>                                               |  |  | <b>Rs. 3,71,020.00</b> |
| <b>GRAND TOTAL AMOUNT</b>                                                               |  |  | <b>Rs.5,95,720.00</b>  |
| <b>Amount in words-</b> Five Lakh Ninety-Five Thousand Seven Hundred Twenty Rupees Only |  |  |                        |

#### **Terms & Conditions**

1. Payment- 80% Advance along with Purchase Order & 20% After Installations.
2. Delivery period-6-7 Working Days.
3. Civil Work for 5000 ltr tank stand will be extra at actual3.3
4. Crane charges for 5000 ltr tank and stand installation will be extra.

#### **Bank Information**

**Beneficiary's A/C NAME: PHOENIX SOLAR SYSTEMS PVT LTD**  
**BANK:- HDFC BANK LTD. SATARA CITY BRANCH**  
**CC A/C No 50200001596584.**  
**IFSC CODE - HDFC0000790**

**For PHOENIX SOLAR SYSTEMS PVT. LTD.**  
**Cell:- 08308821916**