

**S.T. Co-Op. Education Society's Ltd.**  
**Science Senior College, Shahada**  
**Dist.- Nandurbar**

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**Best Practices**  
**2019-2020**

**Best Practice-1**

**1. Title of the Practice-** Rain water harvesting

**2. Objectives of the Practice**

- In order to save the rainfall that falls on earth.
- The rainwater collection system can lessen the harmful effect produced by the flood since the primary cause of the flood during "Rainy Season" is inappropriate rainwater storage.
- To prevent street flooding.
- To Reduce drainage and raises the level of groundwater accessible.
- To Promotes both water and energy conservation.

**3. The Context**

Our institution is situated in tribal region. From many years the climate change affects the rainy season. Due to this the ground water level decreases. Also sometimes there is situation of flood. Keeping this thing in mind to increase the ground water level and prevent street flooding Institution decided to implement rainwater harvesting project. Through this project consciousness about saving water is increased in within the students. We aimed to use this project as pilot project so after studying students may spread the simple and most needful concept of rain water harvesting in society.

**4. The Practice**

Shrinking the ground water level is one of the major problem now a days. Rain water harvesting is one of the good solutions to raise the ground water level. Our institution planed and implemented the rain water harvesting project in the institute premises. Rain water harvesting plant made with

bore well and surrounding structure for collection of all rainy water from the campus premises. All the rain water from the college campus has transferred and passed to the underground through bore well which result in the raising the water level. This collection of rain water around the premises also solves the problem of street flooding.

### **5. Evidence of Success**

With the implementation of rainwater harvesting project within campus it has been noted that it required less time to dry our campus area after raining. Also an informal survey has been taken around the college campus about the ground water level. We can conclude from the oral responses of citizens around the campus that after implementing the rain water harvesting project the ground water level increases.

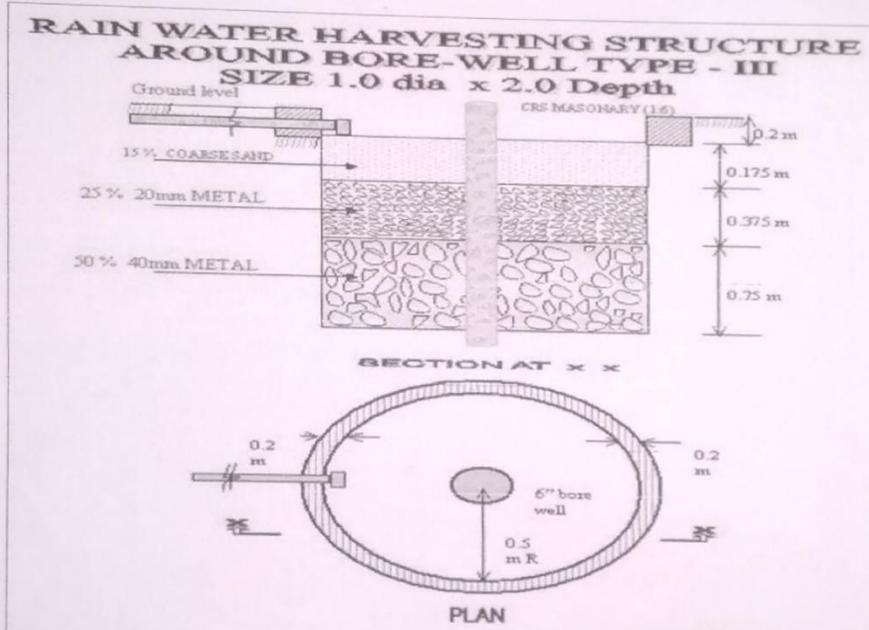
### **6. Problems Encountered and Resources Required**

- Sometimes garbage like plastic, carry bags etc. choke up the rain water harvesting system as some water from street flows in it.
- Need more efforts to aware students about rain water harvesting system at their homes.
- A single open bore well is insufficient to suck all the water in short time due to large campus area.
- Regular maintenance is required.



**Rain Water Harvesting Project**

S.T.CO.OP.EDUCATION SOCIETY'S LTD  
SCIENCE SENIOR COLLEGE SHAHADA, DIST.NANDURBAR  
WATER HARVESTING PROJECT



*G. R. Patil*  
G. R. PATIL  
AKRUTI CONSTRUCTION &  
CONSULTING ENGINEER, SHAHADA  
Licensed Engineer  
Shahada Municipal Council  
L.E.No.-00011

## **Best Practice-2**

### **1. Title of the Practice-** Roof solar panel

### **2. Objectives of the Practice**

- To Protect Environment.
- To manage electricity cost.
- To reduce fossil fuel consumption by using environment friendly power generation.

### **3. The Context**

Solar energy is one of the purest form of energy. The use of solar cell is the cleanest way for electricity generation without polluting and affecting the environment. By considering the aims and goals of solar energy utilization, our institution has installed the 5KW roof top solar panel in the institute. Through this project consciousness about generating and saving energy is raise among the students.

### **4. The Practice**

Our institution is continually working on environment friendly and energy conserving projects such as tree planting, use of LEDs and rainwater harvesting, as well as considering alternative energy sources such as the usage of solar panels for power generation, which is one of the institute's renewable energy sources. Institute installed 5KW solar panel and analyzed the energy generated through the solar panel in 2019-2020. In 2019-2020 Installed solar panel generate and fulfilled about 37.80 % of annual power requirement of institute. High cost and weather dependent are the major constrains of this project.

### **5. Evidence of Success**

In 2019-2020 institute installed the solar panel and institute had planned to analyze the amount of energy generated through solar panel so it was found that total annual power requirement of institute was 6703 KWH and annual Energy generated and used through solar panel was 2534 KWH. As per the analysis the 37.80% electrical energy have been generated and used through solar panel and 62.20% energy was utilized through MSED Co. Ltd.

## **6. Problems Encountered and Resources Required**

- High purchasing cost of solar panel i.e. unable to installed more solar panel.
- Weather dependent project.
- Manually analysis and calculation of % of benefits through solar panel.

**Shahada Taluka Co-operative Educational Society Ltd.**

(Affi.KBC North Maharashtra University Jalgaon)

**Science Sr. College, Shahada Dist. Nandurbar**

**Calculation of Annual Lighting Power Requirement of  
Institute in KWH**

**2019-2020**

Sr.No	Month	Import Units (KWH)	Export Units (KWH)	Difference In Import Export (KWH)	Bill Unit (KWH)
		A	B	C=B-A	
1	April-2019	577	0	-577	577
2	May-2019	1158	0	-1158	1158
3	June-2019	1055	831	-224	224
4	July-2019	745	218	-527	527
5	August-2019	614	226	-388	388
6	September-2019	600	200	-400	400
7	October-2019	329	301	-28	28
8	November-2019	505	225	-280	280
9	December-2019	286	182	-104	104
10	January-2020	267	222	-45	45
11	February-2020	348	129	-219	219
12	March-2020	219	0	-219	219
<b>Total</b>		<b>6703</b>	<b>2534</b>	<b>4169</b>	

- Annual power requirement of Institute- **6703 KWH**
- Annual Energy generated through solar panel- **2534 KWH**
- Energy Utilized through MSED Co. Ltd. In 2019-2020- **4169 KWH**
- Energy generated and used through Solar panel in %  $\frac{2534}{6703} \times 100 = 37.80\%$  per year.
- Energy utilized through MSED (Maharashtra State Electricity Distribution) Co. Ltd. In institute is  $\frac{4169}{6703} \times 100 = 62.20\%$  per year .

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taheri colony, Tulasi Nagar, Swami  
 Vivekanand Nagar, Shahada,  
 Maharashtra 425409, India

Latitude	Longitude	Altitude	Azimuth
21.539506	74.471116	100m	12.368583°



**MSED Co. Ltd. Net Meter**

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 57812.jpg 2

taheri colony, Tulasi Nagar, Swami  
 Vivekanand Nagar, Shahada,  
 Maharashtra 425409, India

Latitude	Longitude	Altitude	Azimuth
21.539506	74.471116	100m	-37.358955°



**Solar Cell**



Latitude: 21.539459  
 Longitude: 74.471133  
 Elevation: 149.43m  
 Accuracy: 3.2m

Time: 12-06-2019 12:25 PM  
 Note: Solar

21.5392° N 74.4712° E

# INVOICE 2019-20 25

Invoice 2019-20 Date March 11, 2019

Due Date March 11, 2019

**Activ Supply**

Register address-R4A, Shop No. 2, MMRDA Complex, Subhash Nagar, Nahur Village Road, Near Ganesh Mandir, Nahur (W)  
Office Address- Waaree solar Power centre, Near Manish Petrol Pump, Shahada  
Mumbai, Maharashtra, PIN Code 400078, India  
+9183798 96336  
activsupply@waareepartners.com  
www.waaree.com  
CST-27261168655C  
GST-27BPIPP9612R1ZX  
TIN: 27261168655V  
PAN: BPIPP9612R

**Bill to:**

Principal Vignyan Varisht Mahavidyalay  
S.N.75, Dondaicha Road  
Shahada, Maharashtra, PIN Code 425409, India

**Ship to:**

Principal Vignyan Varisht Mahavidyalay  
S.N.75, Dondaicha Road  
Shahada, Maharashtra, PIN Code 425409, India

NO.	PRODUCT	QUANTITY NO.	UNIT PRICE	TAX	AMOUNT
1	Solar Power Generating System (HSN Code:85) 5 KWP	1.00	2,28,575.00	11,428.75 GST 5%	2,40,003.75

AUTHORIZED SIGNATORY

SUBTOTAL	2,28,575.00
GST (5%)	11,428.75
ROUNDED OFF	0.25
TOTAL AMOUNT	₹ 2,40,004
ADVANCE PAYMENT	(-) 1,00,000.00
AMOUNT RECEIVED	(-) 1,00,000.00

**Solar Panel Bill**