

## **Best Practices – 1**

### **1. Title of the Practice:** Sustainability Development Initiatives

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

- To create awareness among our students and staff about protection of environment for next generation
- Conservation and effective utilization of Natural Resources
- Know the methods of maintaining and creation of additional natural resources
- Transfer of energy and resource conservation idea to the surrounding community.
- To motivate the student and staff to adopt them personally and get benefited, which will indirectly uplift the society at large

### **3. Context**

Due to modernisation of social living, many fold increase in industrialisation, inventing new methods of manufacturing and refining processes, using outdated practices in manufacturing and maintenance, less knowledge on the preciousness of the existing natural resources, less awareness on the existing quantity and quality of the natural resources, unlimited usage of easily available natural resources, less importance on the usage of the renewable energy sources, has created a threat to the nearing emptiness of the available natural resources.

Environmentalists and natural observers feel that creating immediate awareness among the youngsters who will be the next generation, about the limited and effective usage of the existing resources and concentrating on the tapping of the abundantly available renewable energy sources will end the threat to the limitedly available natural resources.

The college management has decided to be an example by practically adopting methods and thereby create awareness among its students and staff to a restricted use, reuse and save natural resources for next generation.

### **4. The Practice**

Our college is located in a hilly terrain where all the rain water becomes runoff water and nothing can be stored in large quantity in the form of ponds or lakes. As per the practice of the local architecture of buildings, all buildings are provided with hipped type of roofing. All the rain water falling over these roof surfaces are harvested using drains and pipe system arrangement. Rain water falling on the roofs of Main block and nearby buildings are collected and stored in the basement of the Mechanical block, which has a maximum storage capacity of 26,00,000 (26 lakhs) liters. Rain water falling on the roofs of Hostels and nearby buildings are collected and stored in separate tanks with a total maximum capacity of 15,00,000 (15 lakhs) liters. Apart from these storages, small decoration ponds created near and within the main block can store a maximum of 6,20,000 (6.2 lakhs) liters. Rain water from vehicle shed roof is piped to a nearby well to recharge it. The excess water goes as runoff water, recharging the ground water table.

An on ground Solar farm is available for generating 50 kW of power and also a roof type installation of solar panels for 2kW power supply. Solar water heaters are also installed in all the hostels for supplying hot water to students.

3 Bio-gas plants, with a capacity of 15 m<sup>3</sup>, 10 m<sup>3</sup> and 5 m<sup>3</sup>, totalling to 30 m<sup>3</sup> is in operation in our campus. The kitchen waste and waste food from mess halls are efficiently collected and processed to produce bio-gas.

Used Water collected from kitchen wash, wash basins, cloth washing and bathrooms of hostels are collected and sent to the waste water treatment plant in our campus. The treatment plant has a capacity of treating 2 lakh liters per day.

We have a water purification plant in the campus for drinking water purpose. Our college campus is a plastic free zone. Separation of toxic waste from tame waste is done. Bio-waste and Non Bio-waste are collected separately.

A “Go Green Club” having all students and staff as members is functioning in the college. It creates awareness among its members about the “3R’s” for a Sustainable Environment (**R**educe, **R**euse and **R**ecycle). The Club conducts various competitions among its members on National and International observance days to create awareness about the event.

We have an efficient group of maintenance staff, who maintain the gardens, plant new saplings, clean the campus regularly, collect all the waste generated by various activities and separate them as toxic, degradable, non-degradable, recyclable etc and keep the campus environment clean and clear. A part of the group takes care of the power generated, used and maintain the electrical power point, instruments and implements.

## **5. Evidence of Success**

Success of an event or a activity is achieved by proper execution or by organising effectively.

About 47,20,000 (47.2 lakhs) liters of rain water is being harvested and stored in the campus. The stored water is used during summer season when water becomes a rare commodity. The sored water can take care of the campus requirement for 45 days.

The solar power generated in the solar farm is being sent to the grid as our contribution. We use the remaining energy generated in the campus taking less from the electricity board.

The Bio gas generated from the 30m<sup>3</sup> Bio gas plant is used for cooking purpose.

The treated water from the 2 lakhs capacity treatment plant is used for gardening purpose.

The collected toxic waste could contaminate the soil, air and water if left to mix with landfill. The collected waste is disposed of separately. These wastes are regularly incinerated in the campus through a incinerating unit. As per the usual procedures, the other wastes are disposed-off respectively without affecting the environment. Metal waste and plastic waste are collected separately, is sent for re-cycling.

Water purification plant uses harvested rain water for providing purified drinking water.

Kerala State Renewable Energy Commendation Certificate 2017, was awarded to our college for the achievements towards the utilization of Renewable Energy, on 28<sup>th</sup> of February 2017.

By following the above mentioned practices, we have a pollution free environment, good drinking water, provision of reliable energy sources, good effective practices of creating, saving, using, reusing, preserving and appreciating of the natural resources is done, thereby creating a pleasant environment for studying and working.

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

In case of rain water harvesting, before storing the floating materials have to be filtered, preventive measures are to be taken against breeding of toad, mosquitoes and water borne insects. Storage tanks should be provided with a protective cover. Once in two years, deposited silt should be removed and the tank should be cleaned and dry for further effective storage of rain water.

Surface of Solar panels should be periodically cleaned with soft materials without creating scratches on the surface. Periodical servicing of the Grid tied inverter should be done.

To maintain the greenery of the campus and for garden maintenance, a group of staff who will work on all days including working days, non-working days and holidays, should be employed.

In general, skilled employees who can work with involvement and dedication should be identified for effective functioning of the system.

From Go Green Club, we are creating awareness among students and staff about “3R’s” of Environmental Sustainability. We could not assess the % of effectiveness or implementation due to awareness created in them.

## **Best Practices – 2**

### **1. Title of the Practice:**

Concurrent Employment Enhancement Programme

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

- To increase the employment opportunities for the final year students.
- To train the students on current industry practices which are beyond the syllabus
- To help the students to acquire additional / job specific skills and certifications relevant to the industry
- To assist the students in placement and entrepreneurship
- To develop self confidence in student's mind for employment

### **3. Context**

In this competitive world, employment has become a choice of self-decision. Students wait for the job, they like most, or to say they are choosy. They want to attend interview in 3 or 4 companies and choose the best among them. So, they want to develop additional skills for employment apart from the skills taught in the institution. They prefer to be employed as soon as they complete the course and never opt to spend some time for acquiring additional skills.

Skill training companies have been headed by private HR's, having a close relation with the industrial sector, knows the pulse of the industry and the attitude of the students towards employment. They have devised employability training course in a particular skill and offer them to the final year students. Some courses starts during pre-final year and extend into final year.

Studying these additional courses in the college campus, becomes easy and safety, without any requirement of additional time frame. The training company signs a MOU with the Institution and both the parties (i.e.) students and the company gets benefited. PTA prefers such employability courses to be conducted within the campus which also creates a bond of security for the students. They feel like being in a class room than in a training centre.

### **4. The Practice**

The joining of the course is left to the choice of the student and it is not compulsory. The joining of the course also involves a financial component. The list of students opting for the course is collected by the department staff coordinator in-charge for the course and brought to the knowledge of the respective HOD.

The company representative or the company course coordinator will address the students and brief them about the syllabus and conduct of the course in the presence of the department staff coordinator. Before starting of the course there will be an introduction and discussion between the parents of the students and the training company in the presence of the staff coordinator. The company will sign an MOU with the institution, in which the service to be rendered by them, the facilities required for them from the institute, method of executing the course, terms and conditions, jurisdiction area will be mentioned and will be signed by the company MD, Principal and the witnesses.

The theory and practical classes will be started in the campus, attendance will be taken and the progress of the student undergoing training will be closely monitored. As per MOU, they may be

taken to outside location / company for additional training. Regular tests will be conducted and evaluated to confirm the completion of the course. A certificate will be provided by the company after the successful completion of the course. Further the company will arrange for employment for the course completed students. The fees for the course is paid in instalments to the company through the institution. The last instalment will be paid only after the student gets a job.

Prolific Systems and Technologies Pvt. Ltd., a company from Kochi, Kerala, conducts a PGDIA (Post Graduate Diploma in Industrial Automation) course for the Final Year Electronics and Instrumentation Engineering students.

Induscan Petroleum Institute from Malappuram, Kerala offers a course named SKILLED ENGINEER (Mechanical Construction and Quality Control), an accredited course by Kerala Academy for Skill Excellence (KASE) and the State Skill Development Mission (SSDM). This is a 321 hours course including theory and practical classes. This course is offered for Final Year Mechanical Engineering.

Sigmos India having office at Cochin, Kerala, conducts a course on “Electrical Utility System Design” for final year students of Electrical and Electronics Engineering. The passed out students are the first set of trained students.

## **5. Evidence of Success**

Both the courses offered are volunteered by the students, hence evidence of success is clearly visible and encouraging.

The PGDIA (Post Graduate Diploma in Industrial Automation) course offered for the Final Year Electronics and Instrumentation Engineering students, offered by Prolific Systems and Technologies Pvt. Ltd., Kochi, has completed training two sets of students and the training of the third set of student is in progress

The Skilled Engineer (Mechanical Construction and Quality Control) course offered for the Final Year Mechanical Engineering by Induscan Petroleum Institute, Malappuram, has completed training the first set of students.

“Electrical Utility System Design” course is conducted by Sigmos India having office at Cochin, Kerala, for final year Electrical and Electronics Engineering. The passed out students are the first set of trained students.

SN	Dept.	Pass out year	Batch size	No. of Days	Course name	Offered by	Employment status
1	EIE	2016-17	31	21	PGDIA	Prolific Systems	100 % employed
2	EIE	2017-18	32	21	PGDIA	Prolific Systems	In progress
3	MEC	2017-18	41	321 hours	Skilled Engineer	Induscan	In progress
4	EEE	2017-18	30	12	Electrical Utility System Design	Sigmos India	In progress

5	EIE	2018-19	40	21	PGDIA	Prolific Systems	-----
---	-----	---------	----	----	-------	------------------	-------

The number of students opting for PGDIA increase every year. 31,32,41. This shows that the course is more benefiting to the students undergoing it. In spite of the cost of the course more students enrol. This is also clearly visible when going through feedback of the students, which makes the additional course, popular among the students.

The success of the course for Final year E&I students, has initiated to prefer for a course for Final year Mechanical Engineering. As on date the new course also has attracted the Mechanical engineering students. In coming days this course will also be successful. The parents of the students are also exhibit a satisfactory opinion about this additional training.

In days to come, we hope that all the departments will have an additional skill training courses for their students, which will benefit them. A practice, which benefits students, their parents, department, institute and the company can be considered as a best practices.

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

The joining of the course by the students is restricted due to the financial component involved.

Allocation of training slots with the college resources during regular working days is not so easy.

Changing of company resource persons for an ongoing course hinders with the continuous learning of the students

Little difficulty occurs in getting the last instalment of the fees from the student since he is passed out.

The attending of the arranged interviews is influenced by the decision making of the student.

Some joined students find it difficult to parallely manage the work load of regular courses and the training course