Internal Quality Assurance Cell
Dravidian University

Srinivasavanam, Kuppam – 517 426
Chittoor District, Andhra Pradesh

Green Audit Report
2017-18

1. Prefatory Note

The initiatives that are taken by the University in the last two decades yielded good results in terms of promoting and maintaining the campus greenery. The campus now looks like green field with all the plantations, grown up trees, natural and artificial ponds. Check dams, Soak Pits (*Inkudu Guntalu*) increased the level of water-table. The greening process and the plantation could keep the campus free from soil erosions. Even in times of drought conditions in and around Kuppam, Dravidian University has been free from such conditions. When there are no rains in the surrounding villages of Kuppam, the campus experiences occasional drizzling, if not rains. The levels of oxygen in the air are highly conducive for healthy living. The survival of Golden Lichen is an indication for the measures that have been taken for creating the green campus.

The Internal Quality Assurance Cell with the assistance of the Engineering Section of Dravidian University has conducted a survey in the campus for purpose of preparation of the Green Audit Report.

2. Methodology

The survey has been conducted to gather the data. Nine parameters have been fixed for the survey by keeping in view the Quality Indicator Framework of National Assessment and Accreditation Council (NAAC), Bengaluru with specific reference to Green Practices, Rain Water Harvesting, Waste Management, Renewable Energy Sources etc., including certain eco-friendly aspects.

Relevant office records, and self-study report submitted to NAAC have been perused including observation visits in this regard.

The parameters / observations are furnished in the following section.

3. Parameters / Observations

Nine parameters and related observations are detailed below.

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Parameter 1: Use of Renewable Energy Systems:

Observation:
In tune with the National Energy Policy, Dravidian University entered into an MoU with NEW & RENEWABLE ENERGY DEVELOPMENT CORPORATION OF AP LTD (NREDCAP) and M/s. RICH PHYTOCARE PRIVATE LIMITED has installed Roof-top Solar panels in an area 60,000 square feet, producing 430 KWP, which is more than required for the consumption of the University campus. It provides the University with the facility to follow the directions of energy audit and to avoid consumption of diesel in emergencies. The use of solar energy contributes to the green economy. Solar power is incredibly efficient with minimal maintenance and uninterrupted power supply and most importantly, solar panels have zero emission. As there won't be any power fluctuations, the electrical and electronic equipments of the campus cannot be damaged. The University is able to save up to Rs.1.50 lakhs in its electricity bills.

- **Solar Energy Installations on the roof-top of different buildings in the Campus**
  1. Vemana Bhavan
  2. Tiruvalluvar Bhavan
  3. Narayanaguru Bhavan
  4. Basava Bhavan
  5. New Library Building
  6. University Auditorium
  7. University Guest House (M.B.Emeneau House)
  8. Sri Giri Hostel

Also, it has been gathered that the solar water heater systems have been inducted into service for more than 10 years in Men's Hostels, Women's Hostels, and Mythri mess.

Parameter 2: Disposal of Waste – Solid and Liquid Wastes including E-Wastes:

Observation:

a) The University is generating organic compost by decomposing the fallen and pruned leaves from the plants and trees in the campus and the same is used for maintaining university gardens.

b) **Solid waste management**
The solid sewage waste such as the septic tank waste is drawn by compressor sewage vehicle engaged on hire basis from the University campus to outskirt of the campus and is dumped in deep earth pits which are covered by a layer of soil without creating health hazard to public. Decomposing process involves preparation of decomposing from the organic matter waste to bio fertilizer by aerobic micro organisms. After some days, the composed solid product becomes ready for use as manure and is utilised for the plantations within the campus.

c) **Liquid waste management**
Soak pits are constructed nearby each and every septic tank for collecting the liquid waste from septic tanks and is used for soaking the water in ground and the remaining waste solid material that collects on the surface of the soak pits is dumped to deep earth pits for preparing the bio fertilizers for usage in the gardens of the campus periodically.

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d) **E-wastes** like used computers, printer cartridges etc., are disposed through auction in "*as-is-where-condition*".

Parameter 3: Conservation of Water

Observation:

a) Water is consumed on the campus by regulating the release of water from the overhead water reservoirs from 6.00 a.m., to 9.00 a.m., and from 3.00 p.m., to 6.00 p.m. every day for offices, students' hostels as well as residential consumption, thereby water is made available to all in the campus all through 24 x 7.

b) Conservation of water is done by means of drip system and lawn sprinklers for maintenance of gardens and plantations, for example, Dravida Moolika Vanam etc.

Parameter 4: Rain Water Harvesting

Observation:

a) Kuppam's climate is classified as tropical. The rain fall is very low. Water conservation and maintenance of the water-table levels are essential to avoid drought conditions.

b) A sump is constructed with 1.00 lakh litres capacity for collecting the rain water at major buildings and utilise the water for gardening in University Campus.

c) 16-major Check Dams besides 6 Farm Ponds with a capacity of nearly 787 lakh and 51 lakh litres respectively are existing on the campus.

d) Also, 40,000 metres long contour trenches are dug for retention of run-off rain water and 35 water Soak Pits (*Inkudu Guntalu*) are provided for infiltration of rain water besides 400 rock fill dams for preservation of water and stop the soil erosion.

A) Check dams:

1. At Bhairappagudi Vanka with a storage capacity of 16,000 cubic meters.
2. At Bhairappagudi Vanka with a storage capacity of 5850 cubic meters.
3. At Smashanam Vanka (Pachharla Palli) with a storage capacity of 10,500 cubic meters.
4. At Bodi Nayani Kunta vanka with a storage capacity of 668.25 cubic meters.
5. At Lightla Muneppa Chenu Vanka with a storage capacity of 972.40 cubic meters.
6. At Somayya Cheruvu Vanka with a storage capacity of 24,252 cubic meters.
7. Param pad – Near Ammavari gudi with a storage capacity of 7980 cubic meters.
8. At Lotus pond- University canteen (front) with a storage capacity of 5,292 cubic meters.
9. At Prasaaranga (front) with a storage capacity of 744 cubic meters.
10. At VC Bungalow (front) with a storage capacity of 648 cubic meters.
11. At Ammavarigudi (backside) with a storage capacity of 943 cubic meters.
12. At Bijigani palli Smashanam with a storage capacity of 1,684 cubic meters.
13. At Yerramannu Gunthalu vanka with a storage capacity of 240 cubic meters.
14. At Varikasuvula Gundu vanka (Gaybean) with a storage capacity of 343.2 cubic meters.
15. At Pasupu Gutta vanka with a storage capacity of 1,791 cubic meters.
16. At Bellappa chenu vanka with a storage capacity of 1,453.4 cubic meters.

B) Water Ponds (*Kuntalu)*:

1. At Bairappagudi with a storage capacity of 1239.6 cubic meters.
2. At Mamidi cheruvu vanka with a storage capacity of 579.6 cubic meters.

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3. At Varikasuvula gundu vanka with a storage capacity of 1166.4 cubic meters.
4. At Veerappa chenu with a storage capacity of 187.5 cubic meters.
5. At Kanuma vanka with a storage capacity of 1934.4 cubic meters.
6. At Bairappagudi with a storage capacity of 1239.6 cubic meters.

C) Cantour Trenches (*kandakalu*) with a storage capacity of 40,000 meters.

D) 400 Rock-fill dams for preservation of water and stop the soil erosion.

E) 35 Water Soak Pits *(inkudu-gunthalu)* with a storage capacity of 3,500 cubic meters each.

Parameter 5: Providing Safe Drinking Water Facility

Observation:

27 Reverse Osmosis (RO) Water Plants have been installed in all departments, offices, hostels, and University Guest House (M.B.Emeneau House) towards providing hygienic water to the students and staff of the University. These are being maintained by the Engineering Section, Dravidian University from time to time.

Parameter 6: Use of LED bulbs for reducing the electricity power consumption

Observation:

50 LED street lights have been mounted so far in the University campus and also a few more have been put in different departments.

Parameter 7: Promoting Greenery

Observation:

a) At outset, it is observed that promoting greenery is one of the best practices of the University. The University in collaboration with TTD has initiated the project of plantation on the campus, spread over 1090 acres. Initially 75000 saplings at a cost of Rs.35.00 lakhs were planted. Now, the saplings have grown into big trees encircling and beautifying the entire campus. This process of greening has been continued for the last two decades, because of which the University campus is pollution-free.
b) With an intention to preserve the ancient medicinal knowledge and systems, Dravidian University has earmarked 10 acres of land on which rare medicinal plants are grown. These practices not only preserve the classical system of medicine but also useful to cure the routine and normal health disorders. So far the University has been maintaining 4500 plants of 250 species of medicinal plants in the herbal garden.
c) The Andhra Pradesh Urban Greenery & Beautification Corporation has selected the University and planted 4800 saplings at a cost of Rs.40.00 lakhs during the last year including maintenance for 3 years.

Parameter 8: Reducing wastage of electricity power consumption

Observation:

The security guards and subordinate staff switch off different electrical appliances soon after leaving of the office staff thereby effecting the reduction of wastage of electricity power consumption.

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Parameter 9: Green Practices

Observation:

a) **Plastic free Campus:** The University is maintaining a plastic-free campus by instructing the campus community by numerous circulars and placing sign boards. Orders are issued to the University canteen owner not to use plastic cups, plates and plastic bags.

b) **Minimal use of Paper:** The University in most of the cases sends e-circulars, notices, and other communications instead of printed ones. As the departments are provided with internet facility, most of the communication on campus takes place through mails because of which there is drastic reduction in the consumption of paper.

c) **Use of bicycles etc.:** The University is located in a hilly terrain and is using university buses for transportation of staff and students. A few students and employees use bicycles besides children of campus residents.

It has also been observed that the Engineering Section of Dravidian University has been vested with responsibility of maintenance of all above mentioned installations in the University Campus.

Name of the Official — Signature with date

1. **Prof. D.Srinivas Kumar**
   Director, IQAC — Dskumar. 21.5.2018

2. **Sri J.Bhaskar**
   Deputy Executive Engineer — 21/5/18

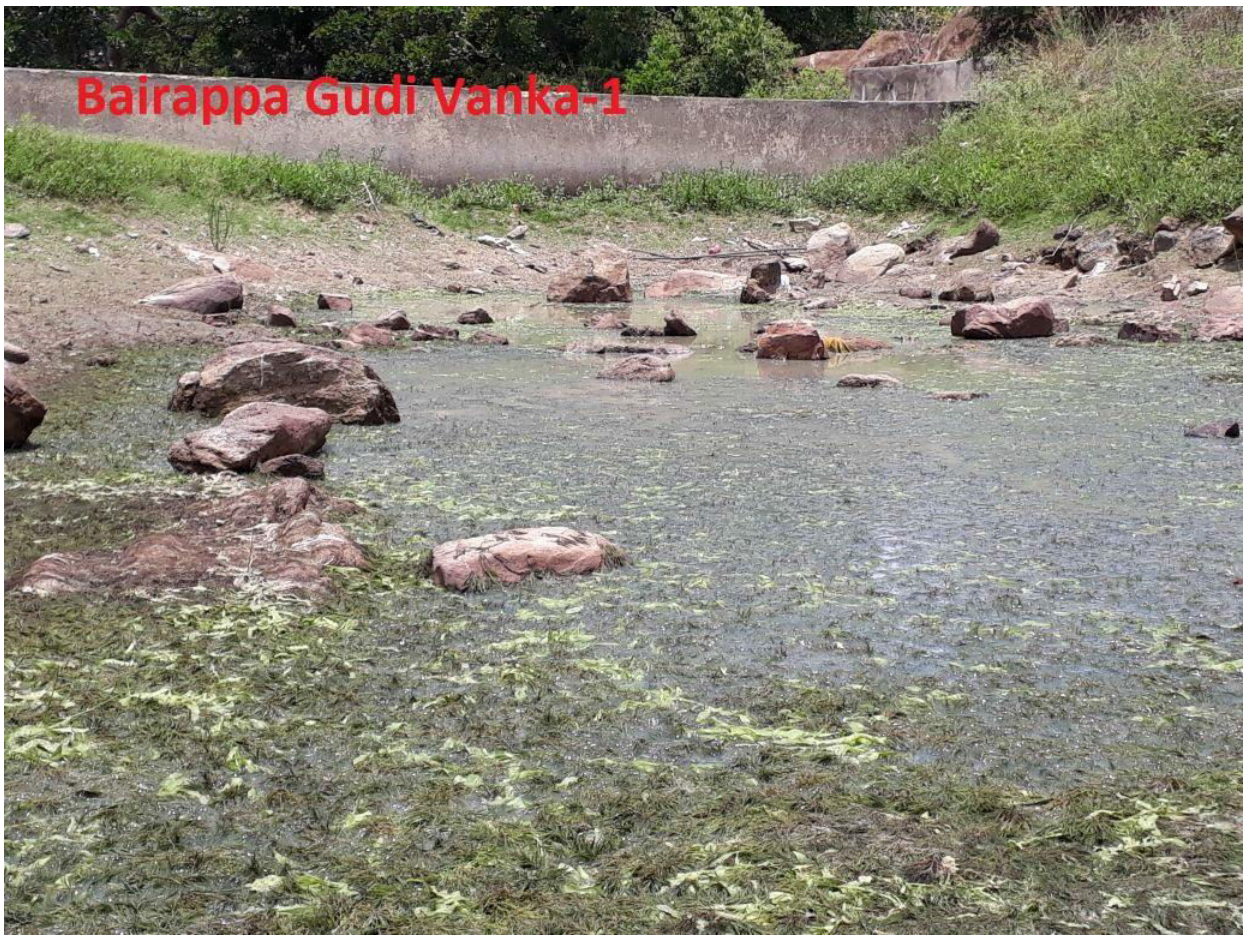
Submitted for perusal & approval, and to upload in Univ. website.

Dskumar. 21.5.18
Director, IQAC

Registrar 24.5.18 / Rector 24.5.18 / Vice-Chancellor 24/05/18

Lotus Pond


Chama Cheruvu (Somaiah Lake)


Bairappa Gudi Vanka-1


Opposite to Prasaaranga


Dravida Mulika Vanam

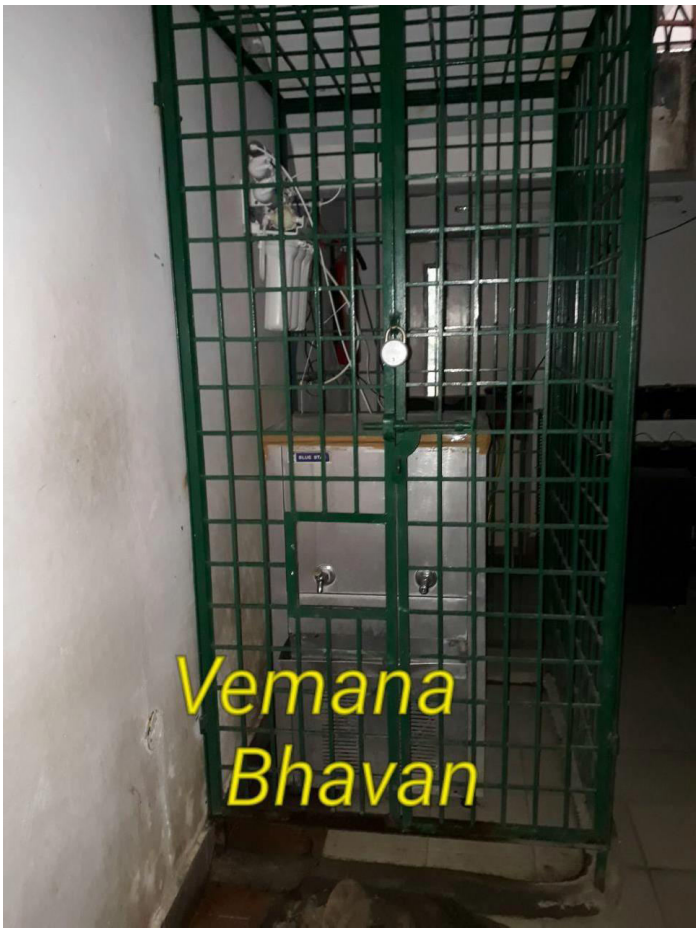
Rock Fill Dam-1

Inkudu Gunta (Rain Water Soak Pit)

University Plants

University Plants-2

RO Plants:


Vemana
Bhavan


Thiruvallu
var Bhavan


Narayanagu
ru Bhavan


Basava
Bhavan


Harappa
Bhavan

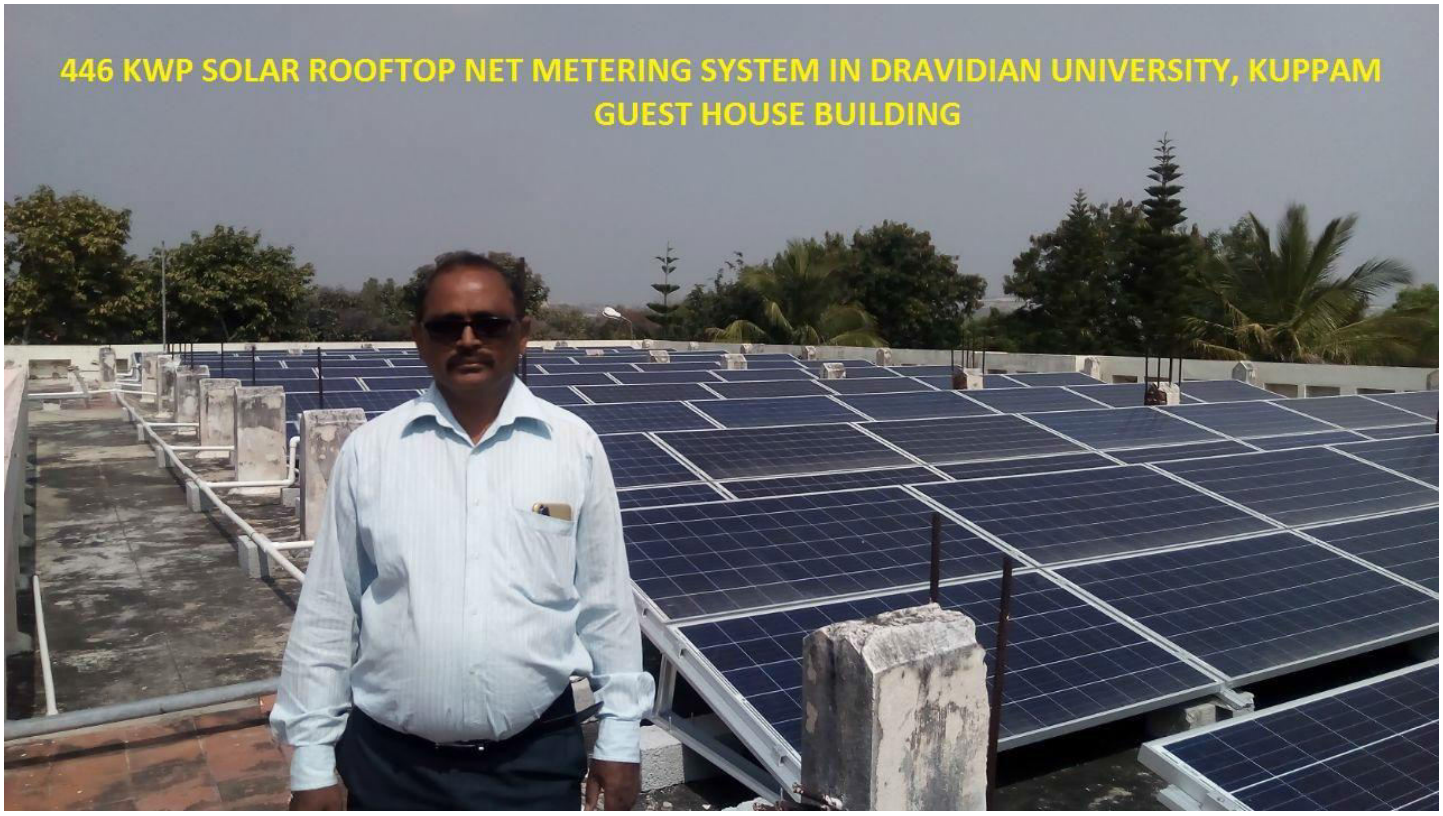

Ladies
Hostel


Emeneau
House


BLUE STAR
Prasaranga

SOLAR POWER:


446 KWP SOLAR ROOFTOP NET METING SYSTEM IN DRAVIDIAN UNIVERSITY, KUPPAM
BASWA BHAVAN BUILDING


446 KWP SOLAR ROOFTOP NET METERING SYSTEM IN DRAVIDIAN UNIVERSITY, KUPPAM
GUEST HOUSE BUILDING


446 KWP SOLAR ROOFTOP NET METERING SYSTEM IN DRAVIDIAN UNIVERSITY, KUPPAM
LIBRARY BUILDING


446 KWP SOLAR ROOFTOP NET METERING SYSTEM IN DRAVIDIAN UNIVERSITY, KUPPAM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