# Sustainability study RENEWAL AUDIT REPORT

# Studied for Sri Padmavati Mahila Visvavidyalayam

Govt. State Level University Recognized by UGC (Under the act of 1956)

## Studied in the capacity of

Accredited and Certified Green Building Professional



Website: https://thegreenviosolutions.co.in/ Email: greenviosolutions@gmail.com Valid till **31 March 2024** 

STUDY PERIOD (TWO YEARS) 2021 - 2022 AND 2022 - 2023 **NNO** NVIR

# Disclaimer

The Audit Team has prepared this report for the **Sri Padmavati Mahila Visvavidyalayam** located at <u>NTR Marg, Padmavathi Nagar, Tirupati – 517 502, Andhra</u> <u>Pradesh, India</u> based on input data submitted by the University and analyzed by the team to the best of their abilities.

The details have been consolidated and thoroughly studied as per the various guidelines for Green Buildings available in National and International Standards; the report has been generated based on a comparative analysis of the existing facilities and the prerequisites formulated by various standards. The inputs derived are a result of the inspection and research. These will further enhance and develop a Healthy and Sustainable Institution.

These can be implemented phase-wise or as a whole depending on the decision taken by the Hon'ble Management and University. The warranty or undertaking, expressed or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements, or forecasts in the report.

The audit is a thorough study based on the inspection and investigation of data collected over a while and should not be used for any legal action. This is the property of Greenvio Solutions and should not be copied or regenerated in any form.

The Report is prepared by the Team of Greenvio Solutions under their brand and department – Sustainable Academe as Consultancy firm with the Project Head - Ar. Nahida Shaikh who is an Accredited and Certified Green Building Professional. Green Building consultancy is her forte and she is one of the most sought-after names when it comes to providing excellent quality services within the stipulated time frame.

The Study is conducted incapacity of an Accredited & Certified Green Building Professional with extensive experience.

#### **Greenvio Solutions**

Developing Healthy and Sustainable Environments We are an Environmental and Architectural Design Consultancy firm <u>Sustainable Academe</u> is our department for conducting Audits Palghar District, Maharashtra- 401208 <u>sustainableacademe@gmail.com</u>



# Acknowledgment

The Audit Assessment Team thanks the **Sri Padmavati Mahila Visvavidyalayam**, **Andhra Pradesh** for assigning this important work of Environment Audit. We appreciate the cooperation extended to our team during the entire process.

Our heartfelt thanks to Chairperson of the entire process **Prof. Tripura Sundari,** Director, IQAC-SPMVV and **Prof. T. Kumar,** Convenor of the process for the valuable inputs.

Our special thanks are due to **Prof. M. Aruna**, Dept. of Law; **Prof. T.G.Amuthavalli**, Dept. of Education; **Prof. R. Jaya Madhuri**, Dept. of Microbiology; **Prof. A. Sridevi**, Institute of Pharmaceutical Technology; **Ms. M. Mohini**, Assistant Engineer-II (Civil) Engineering section and **Mr. M. Anand**, Assistant Engineer (Electrical) Engineering section.

We highly appreciate the assistance of the **entire Teaching**, **Non-teaching**, **and Admin staff** for their support while collecting the data.

#### Sustainable Academe

Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208



# Contents

| Di | sclaimer     | 1 |
|----|--------------|---|
| Ac | knowledgment | 2 |
| Со | ntents       |   |
| 1. | Introduction | 4 |
| 2. | Compliance   | 7 |
| 3. | Evidences    | 9 |
| 4. | Inferences   |   |
|    | Compilation  |   |



# 1. Introduction

# 1.1 About the Institute

Sri Padmavati Mahila Visvavidyalayam (University for Women) was founded in the year 1983 by Sri N.T.Rama Rao, the then Chief Minister of Andhra Pradesh, with the fervent desire to train women students as better builders of the Nation and to inculcate skills of leadership in all aspects of life.

The University was established under the Sri Padmavati Mahila Visvavidyalayam Act of 1983, which has come into force on the 14 of April 1983. It was started with ten faculties and 300 students and twenty staff members. Today the University has a student population nearly 4,000 and an academic staff of 105 and 131 academic consultants.

This year the University has 59 courses at the post-graduate and undergraduate level and a good component of research. The campus has the necessary buildings to run its academic programmes and administrative machinery.

There are separate buildings for Humanities and Sciences, University Administration, Central Library, University Auditorium, Sericulture Complex, and School of Pharmaceutical Sciences and also an independent building for Computer Science, Business Management and Engineering College.

# 1.2 Assessment of the Institute

The University is recognized as a State University as documented below:

# 1.2.1 University Act

It was established under the Andhra Pradesh Act under 16, 1983, as amended by Act No. 17 of 1985 and was thus established as The University was established under the Sri Padmavati Mahila Visvavidyalayam Act of 1983.

# **1.2.2 Recognitions**

The courses provided are recognized by Govt. of India's **University Grant Commission** (UGC) sections 2(f) and 12(b) respectively.



# **1.2.3 Certification**

The University has received the following Certifications.

- The University received the ISO 9001:2015 Certification for providing Educational Services by M/s HYM International Certifications Pvt. Ltd.
- In the NIRF rankings, Sri Padmavati Mahila Visvavidyalayam (SPMVV) in Tirupati retained its rank band 151-200 for University category

# **1.2.4 Accreditation**

The following are details of the reaccreditation of the University.

| Cycle | First     | Second | Third | Fourth |
|-------|-----------|--------|-------|--------|
| CGPA  | -         | 2.51   | 3.11  | 3.38   |
| Grade | Four Star | В      | A     | A+     |
| Year  | 2002      | 2010   | 2016  | 2023   |

Table 1: NAAC Accreditation details of the University

# 1.2.5 Approval

The details of the significant approvals are as follows:

| S.<br>No. | Institute/<br>Department                     | Approval  | Since |
|-----------|--|---|-------|
| 1         | Institute of<br>Pharmaceutical<br>Technology | <b>Pharmacy Council of India (P.C.I)</b><br>A statutory body of government of India constituted under<br>the Pharmacy Act, 1948, responsible for regulation of<br>pharmacy education and practice of profession in the country<br>for registration as a pharmacist. | 2000  |
| 2         | Department of<br>Law                         | <b>Bar Council of India (B.C.I)</b><br>A statutory body established under the section 4 of<br>Advocates Act 1961 that regulates the legal practice and legal<br>education in India.   | 2015  |
| 3         | Department of<br>Education                   | National Council for Teacher Education (N.C.T.E)<br>A statutory body in pursuance of the National Council for   | 1996  |



|   |  | Teacher Education Act, 1993  |      |
|---|--|--|------|
| 4 | B.Ed Special<br>Education                | Rehabilitation Council of India (RCI)       I         The apex government body, set up under an Act of       Parliament, to regulate training programmes and courses         targeted at disabled, disadvantaged, and special education       requirement communities. |      |
| 5 | School of<br>Engineering &<br>Technology | All India Council for Technical Education (AICTE)<br>A national-level Apex Advisory Body to conduct a survey on<br>the facilities available for technical education and to promote<br>development in the country in a coordinated and integrated<br>manner.            | 2009 |
| 6 | School of<br>Nursing                     | The University has the approval of Andhra Pradesh<br>Government, State Nursing Council and Indian Nursing<br>Council, New Delhi for the G.N.M. Course offered  | 2013 |

Table 2: Details of the various Approvals of the Institute

# 1.3 Site Area & Building Spread Area

The total site area is 130 Acres and the total Built-up area of University is 8,18,750 sq. ft.

# **1.4** Timeline of activities for research

As the University had undergone a renewal for the Academic year 2021-2022 and 2022-2023, data collection processes for verification purposes were asked to be submitted.

- Discussion with the University
- Allotment and Initiation by the University
- Process discussion with team
- Data submitted by University
- Submission of the files



# 2. Compliance

The compliance study was carried out through investigative ways. This was done to understand the **extent of suggestions and their implementations based on previous report of Academic years 2019-2020 and 2020-2021.** 

## 2.1 Comparative analysis

The details of the suggestions are based on the **Original Report dated 14 January 2022** is further documented below. It is based on the data collection process.

| S. No. | Recommendation  | Status   |
|--------|---|--|
| 1.     | Air purifier plants, native<br>plants that encourage<br>pollinators | Areca Palms, Snake palms, Money plants, Chinese<br>Evergreens, Spider plants, Aloe Vera, Broad Lady Palms,<br>Weeping Figs, Rubber Plants are planted huge in number in<br>front of all indoor corridors of departments in all the buildings<br>Banyan, Indian beech, Mango and Tamarind trees are<br>planted all over the outdoor of the university |
| 2.     | Trees that can grow tall<br>to help birds for their<br>livelihood   | Neem trees, Bamboo, Banyan trees are available spread across all major buildings in the campus.  |
| 3.     | Birds for their livelihood in the campus                            | The diverse green cover of SPMVV is home to 102 species of birds   |
| 4.     | Bird House  | There are no such bird houses kept exclusive but the lush<br>landscapes and productive gardens attract and entice birds in<br>the campus   |
| 5.     | Day Care Centre   | DCC provides absolutely clean and eco-friendly to the kids of<br>teaching and non-teaching staff, research scholars and<br>students. It has a kitchen with microwave cooking facility and<br>the organic food is served to the children.   |
| 6.     | Bicycles  | 67 Bicycles are issued to the students pulsing the need for convenient transport facility.   |



| 7.  | Signages in Braille<br>language                            | Braille software is installed in the library for the benefit of visually challenged students.   |
|-----|--|---|
| 8.  | Environment courses  | Separate course papers are offered in the departments of<br>English, Botany, Zoology, Biotechnology and Microbiology<br>and almost all the Post Graduate programs have Units of<br>syllabus on environmental education. |
| 9.  | Widening internal roads                                    | Internal roads are sufficiently widened   |
| 10. | Appointment of gardeners                                   | University takes housekeeping contracts with Sulabh, NGO for<br>day today cleaning, gardening and maintenance activities  |
| 11. | Plantations on both side<br>of roads including<br>pathways | Plantations are there on both sides of internal roads including<br>pathways leading to different blocks of the campus   |

Table 3: Details of the compliance study



# 3. Evidences

The information shared by the Institute to support the documentations are listed below:

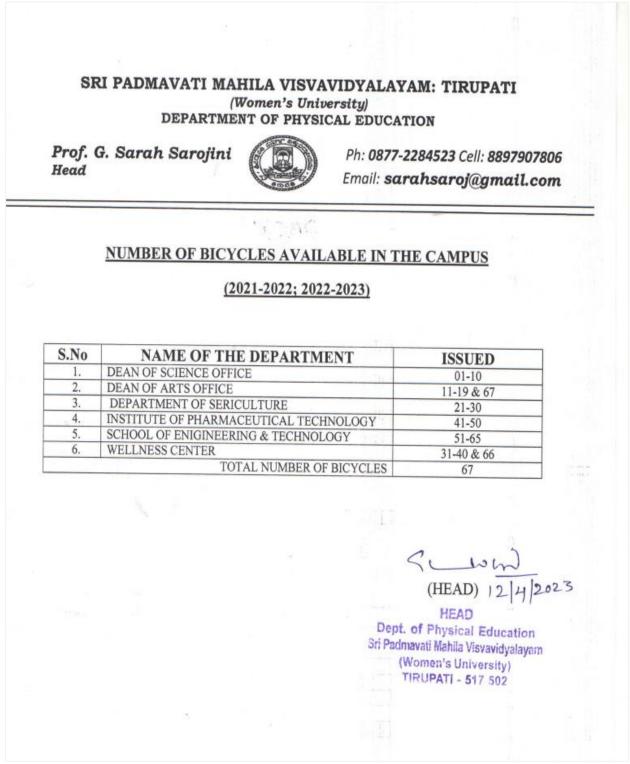


Plate 1: Details of the bicycles in the premises



#### SRI PADMAVATI MAHILA VISVAVIDYALAYAM;TIRUPATI

#### (WOMEN'S UNIVERSITY)

Fire Extinguisher's list for College buildings , Hostels, Sub Station – I & II in Sri Padmavati Mahila Visvavidyalayam (Women's University), Tirupati.

| S.NO | Name of the Building            | 4 Kgs  | 2 Kgs | Total |
|------|---------------------------------|--------|-------|-------|
| 1    | Kinnera block                   | 2      | 1     | 3     |
| 2    | Kalyani block                   | 2      | 1     | 3     |
| 3    | A Mess Dinning block            | 2      | 1     | 3     |
| 4    | Gowthami block                  | 1      | 1     | 2     |
| 5    | Gangothri block                 | 1      | 1     | 2     |
| 6    | 8 Mess Dinning block            | 2      | -     | 2     |
| 7    | Sravanthi block                 | 1      | 1     | 2     |
| 8    | Gayathri block                  | 1      | 1     | 2     |
| 9    | C Mess Dinning block            | 2      | -     | 2     |
| 10   | C Mess Kitchen                  | 2      |       | 2     |
| 11   | Manjeera block                  | 2      | 1     | 3     |
| 12   | Godavari block                  | 2      | -     | 2     |
| 13   | Swarnamukhi block               | 2      |       | 2     |
| 14   | Security room -I                | 1      |       | 1     |
| 15   | Security room - II              | 1      |       | 1     |
| 16   | Administrative building         | 4      | 2     | 6     |
| 17   | Engineering college             | 40     | 5     | 45    |
| 18   | Computer Centre                 | 2      | ÷-    | 2     |
| 19   | Physics Department              | 2      | 10.   | 2     |
| 20   | B-Pharmacy                      | 6      |       | 6     |
| 21   | Saaveri Guest House             | 3      |       | З     |
| 22   | V.C Residence                   | 2      | 1     | 3     |
| 23   | Indira Priyadarshini Auditorium | 7      |       | 7     |
| 24   | Library building                | 2      |       | 2     |
| 25   | Nursing College                 | 1      | 1     | 2     |
| 26   | Humanities Block-I              | 4      | 1     | 5     |
| 27   | Humanities Block-II             | 4      |       | 4     |
| 28   | Physical Education              | 2      |       | 2     |
| 29   | Sericultre                      | 1      | 1     | 2     |
| 30   | Science block-I                 | 6      | 1     | 7     |
| 31   | Science block-II                | 2      |       | 2     |
| 32   | Science block-III               | 2      | 14    | 2     |
| 33   | Health Centre                   | 1      | 1     | 2     |
| 34   | Animal House                    | 1      |       | 1     |
| 35   | Sub Station- I                  | 2      | 2     | 4     |
| 36   | Sub Station- II                 | 2      | 2     | 4     |
|      | Total Nos                       | 120.00 | 25.00 | 145.0 |

18/04/23 Acquisitant Engineer (Ele) SPMVV, TIRUPATI

NUCEE) 18/02/25

Deputy Executive Engineer (Ele.) SRI PADMAVATI MAHILA VISVAVIDYALAYAM TIRUPATI-517 502 SRI

Ł SRIPADMAVATI MAHILA VISVANDYALAYAN (WOMEN'S UNIVERSITY) TIRUPATI-817 502

Plate 2: Details of the fire extinguishers in the premises



# 4. Inferences

# 4.1 Section-wise recommendations

The following suggestions are to be considered as a *<u>first priority</u>* for implementation. These **should be executed within the next 1.5 to 2.5 years from the date of the Report submission.** The Institute can execute a plan after discussion with Project Head.

## 4.1.1 Site beautification

**Nutrition pits -** Certain pits can be demarcated as 'Nutrition pits' where the organic food from the kitchen and Canteen fruit peels and fruits or vegetables can be degraded for making nutrition-rich soil.

## 4.1.2 Heat island reduction

- Cool rooftops It is suggested that the Institute gets the Terrace roofs painted with Cooltop as it will help reduce the temperature of the spaces.
- Shaded area for walkways There should be provisions for shaded walkways and also resting/ breakout zones. A sample of the same is as follows:



Plate 3: Shade structures concept for the Institute (For reference purpose only) Source: Image by <u>https://earthbound.report/2021/07/14/5-ways-to-reduce-the-urban-heat-island-effect/</u>



## 4.1.3 Universally accessible premises

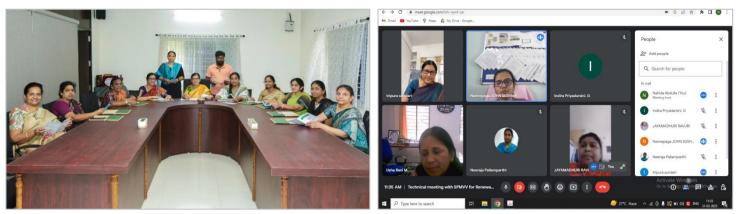
- Universal Toilet There should be a minimum of 1 toilet in every block for the specially-abled people as per guidelines prescribed by the National Building Code 2016.
- Provisions for visually impaired Tactile flooring The indoor and outdoor of the premises should have dedicated tactile flooring for the visually impaired.
- Provisions for visually impaired Audio Visual Section There should be dedicated section for ther visually impaired students to listen to the audio books; Abrar the audio book reader should be available.
- Provisions for hearing and speech impaired Sensor based fire system There should be smoke detectors, sensor based facilities and signages, floor layouts for emergency situations such as fire. Additionally, one maintenance staff should be allocated for assistance at every corner of the Institute.

## 4.1.4 Life safety

- **Fire station**
- Mandate fire extinguisher in spaces One fire extinguisher should mandatorily be there in every space which has an air conditioner/ gas cylinder.
- Combustible equipment Every space which has a gas cylinder or combustible equipment should have a provision for the barricade around the gas cylinders, appropriate safety board's mentioning 'danger sign' and 'Do not touch' with an additional small fire extinguisher close by.
- Sensitization programs Regular seminars/ webinars by experts such as Architects, Govt. Fire department on subjects related to fire and life safety should be organized and the outputs should be adopted and documented.



#### **Data verification** Evidences after implementation of the suggestions



Core team working on site and in discussion with external team





Enhanced green cover in the site





Facilities such as Library, Ground and Auditorium among many others



Social upliftment initiatives by the NSS Team



|  | TOTAL CAMPUS AREA : 130.00 Acres   |                                       |
|--|--|---------------------------------------|
| SRI PADMAVATI MAHILA   | VISVAVIDYALAYAM 02. GAYATHEI ROSTEL                                      | : 4686 sqm<br>: 2179 sqm<br>: 686 sqm |
| SIM TADMAVATI MAIIILA  | 03. DINING BLOCK   |                                       |
| TIRUPATI   | 04. Ext. DINING BLOCK  | : 125 sqm                             |
|  | 05. SRAVANTEL HOSTEL   | mpa 88SE ;                            |
|  | 00. GOUTHAMI GANGOTHRI HOSTEL  | : 5936 eqm                            |
|  | 07. KINNERA KALYANI HOSTEL   | : 6286 Sqm                            |
|  | 08. ANANDI GUEST HOUSE   | : 96 Sqm                              |
|  | A  | : 1314 sqm                            |
| 10   | 10. KRISHNAVENI AND SHABARI HOSTEL : un                                  | ter constuction                       |
| 09   | 11. SWARNAMUEHI ( FACULTY HOSTEL)  | : 2374 sqm                            |
|  | Al an and a start design a start design a                                | 1 288 Sqm<br>1 433 sqm                |
|  | 13. STAFF QUARTERS   | : 404 sqm                             |
| / <sup>2</sup> // <sub>2000</sub> ,   [ <sup>08</sup> 30, and () <sup>Q</sup> <sup>Q</sup>   | IN TO REQUERCE   | : 1700 sqm                            |
|  | data us tat 15. AUDITORIUM   | : 126 Sqm                             |
| 1.20 1 30000   | 10. GANTELIN   | : 1026 Sqm                            |
| -  |  | : 3846 Sqm                            |
| - YM   |  | : 42 Sqm                              |
|  | 20 015 582   | : 253 Sqm                             |
| 22 6   | Security peer  | : 1195 Sqm                            |
|  | 22. HEALTH CARE CENTRE   | : 238 Sqm                             |
| THE OF A DESCRIPTION OF | 23. NEW DEC AND ANDERABANK   | : 210 Sqm                             |
| 21 20 19 18  | 23. NEW DEC AND ANDHRAHANK<br>24. CENERATOR BOOM                         | : 42 Sqm                              |
|  | 17 25. ADMINISTRATIVE BUILDING   | : 3385 Sqm                            |
|  | 26. COMPUTER CENTER  | : 667 Sqm                             |
| 27 eggs e) 127   | 27. SCIENCE BLOCK -111<br>28. SCIENCE BLOCK -11 (KALPANA CEAWLA)         | : 1989 Sqm                            |
| The second se  |  | : 2595 Sqm                            |
| 271 June 1   | 29. RUSH, RANDIN   | : 226 Sqm<br>: 3662 Sqm               |
| 49 30 28   | 26 25 30. SCIENCE HACK -1<br>31. ANDERA HANE ATM                         | : 23 Sqm                              |
| 485  | 24 32. HUMANITIES BLOCK  | : 6245 Sqm                            |
| -45 33 100   | 35. HUMANITIES BLOCK-II  | : 1962 sqm                            |
| 48 月時間 48  |  |                                       |
| 14   | 34. CUEST HOUSE<br>35. PHYSICAL SCIENCE                                  | : 1342 Sqm<br>: 732 Sqm               |
|  | 35. PHISICAL SCIENCE<br>36. PHARMACY                                     | : 2931 Sqm                            |
| a 理N 39 38   | 36. PERDIX-1<br>17. ANIMAL HOUSE   | : 178 Squi                            |
| 43 📖 🚔 37  |  | E                                     |
| 600 mile 10 MR   | 39. SERICULTURE LAB  | -                                     |
| 40 41 42   | 40. SERICULTURE LAB  | - 1109 Sqm                            |
|  | 41. SERICULTURE CLASSROOMS<br>42. SERICULTURE REARING SHED               |                                       |
|  | 42. SERICULTURE REARING SHED<br>43. VISVESWARAIAH ENGINEER COLLEGE BLOCI | (: 4000 Sam                           |
|  | 44. CV . HAMAN ENGINEERING COLLEGE BLOC                                  |                                       |
|  | 45. K.L. RAO ENGINEERING COLLEGE BLOCK :                                 |                                       |
| I7-3   |  | : 213 Sqm<br>: 112 Sqm                |
| <ul> <li>Existitivous interes</li> </ul>   |  | inder construc                        |
| 22 Obdavid Loss Obdavids   |  | nder construct                        |
| - 09550  |  | : 76092 Sqm                           |
| 14   | SRIPADMAVATI MAHILA VIEVOI ALEVAN  | 1 8,18,750 Sq.1                       |
| 12   | REGISTRAN  |                                       |
|  | SHI PADMAVATI MAHILA VISVAVIDYALAYAN                                     |                                       |







#### Awards and recognitions of the University



Greenvio





# 5. Compilation

The study is based on the data collected, analysed, rechecked, and confirmed through multiple modes. For the quality study, some standards/ notes have been referred to. These are listed and noted below. However, no direct references have been used anywhere. These are used as a base to analyse and study the data collected.

- Uniform Plumbing Code India, 2008
- IGBC Green Existing Buildings Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
- S IGBC Green Landscape Rating system, March 2013
- BOMA Canada Waste Auditing Guide, Best Environmental Standards, BOMA BEST – Canada
- Used only for understanding Universal design Universal Accessibility Guidelines for Pedestrian, Non-motorized vehicle and Public Transport Infrastructure – Report guidelines by Samarthyam (National center for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation and www.umassd.edu
- The city of Cheyenne, Streetscape/ Urban Design elements Wyoming Planning Association, Gillette, Wyoming, United States
- Images on site by Coordinators of the both teams



