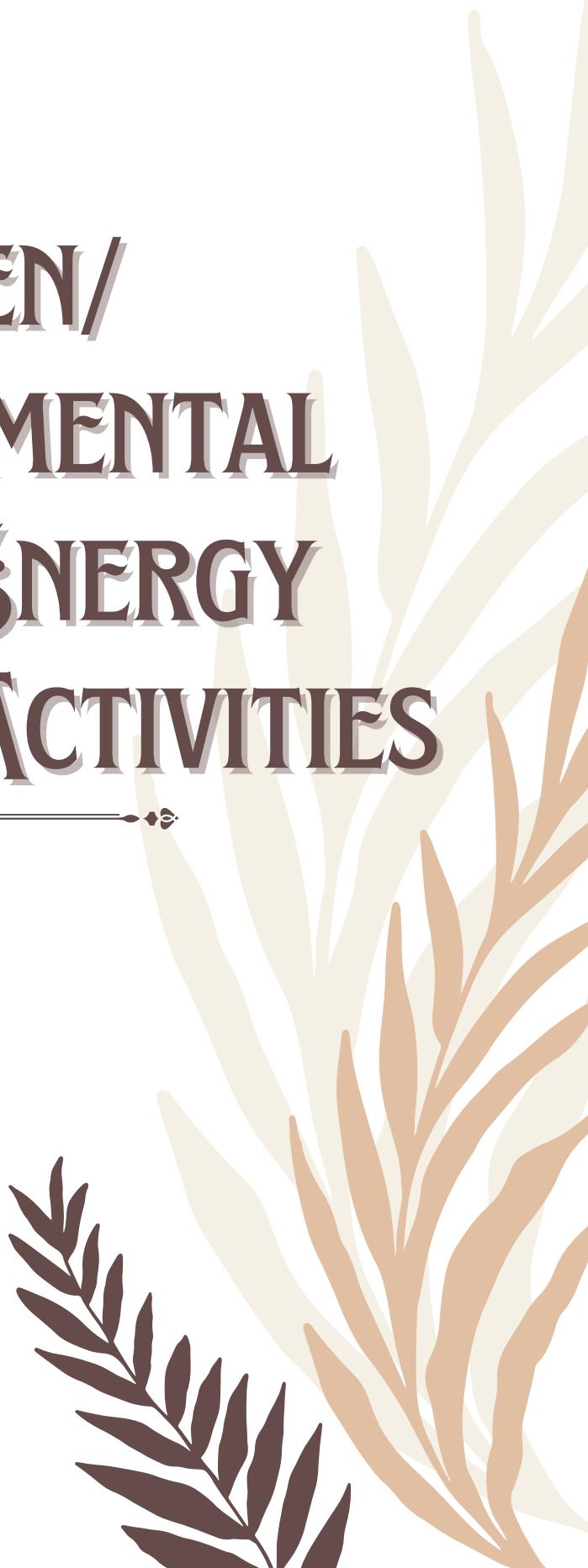

CRITERION VII

GREEN/ ENVIRONMENTAL AUDIT, ENERGY AUDITS & ACTIVITIES



CRITERION VII

ISO CERTIFICATE



CERTIFICATE OF COMPLETION

This Is To Certify That

A. R. Burla Mahila Varishtha Mahavidhyalaya

Solapur.

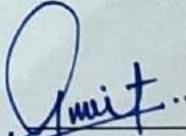
*Upon The Successful Completion Of
ISO Certification*

SVCS Network Services Pvt. Ltd.

① : 9623000768



Date : 25/03/2023


Director



Certificate of Registration



This is to certify that Environmental Management System of

A.R. BURLA MAHILA VARISHTHA MAHAVIDYALAYA

AT-C.S.No-9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur,
Dist- Solapur, Maharashtra, India-413005

is in accordance with the requirements of the following standard

ISO 14001:2015

(Environmental Management System)

SCOPE

Environment consciousness is created among the students by organising activities like tree plantation and conservation, making the campus plastic free, creating an O Zone space, using solar energy, conserving rain water and making use of vermicompost.

Certificate Number : SCK/02/ARB/23/91/1445

To verify certificate, visit at :

www.sckcerts.com

www.iafcertsearch.org

Initial Registration Date : 25-Mar-2023

1st Surveillance Date : 25-Feb-2024

2nd Surveillance Date : 25-Feb-2025

Certificate Expiry Date : 24-Mar-2026

Issued by SCK Certifications Pvt. Ltd.



Accreditation Board : 3060, Saturn Street, Suite 100, Brea, California 92821-1732, USA

This certificate remains the property of SCK and must be returned to SCK on Cancellation or Suspension of the certificate. Validity of the certificate is subject to successful completion of surveillance audits. Further clarification regarding the scope of this certificate and the applicability of standard may be obtained by consulting the Organisation on info@sckcerts.com

Certificate of Registration



This is to certify that Quality Management System of

A.R. BURLA MAHILA VARISHTHA MAHAVIDYALAYA

AT-C.S.No-9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur,
Dist- Solapur, Maharashtra, India-413005

is in accordance with the requirements of the following standard

ISO 9001:2015
(Quality Management System)

SCOPE

The college provides quality education to linguistically minority students. It aims to enhance satisfaction of learners by using proper teaching-learning methods and management systems. It attempts to show its excellence in curricular, co-curricular, extra curricular and research activities. It also introduces Short Term Courses, Internships, Projects and Skill Development Training Programs to nurture employability skills among the students. It provides Value Added Courses to inculcate basic human values, social harmony, national integrity and professional ethics and fosters students to develop technical skills, learning methods and entrepreneurial leadership. It always strives for global competence and local acquaintance.

Certificate Number : SCK/01/ARB/23/91/1444

To verify certificate, visit at :

www.sckcerts.com

www.iafcertsearch.org

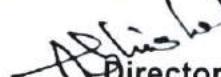
Initial Registration Date : 25-Mar-2023

1st Surveillance Date : 25-Feb-2024

2nd Surveillance Date : 25-Feb-2025

Certificate Expiry Date : 24-Mar-2026

Issued by SCK Certifications Pvt. Ltd.


Director



Accreditation Board : 3060, Saturn Street, Suite 100, Brea, California 92821-1732, USA

This certificate remains the property of SCK and must be returned to SCK on Cancellation or Suspension of the certificate. Validity of the certificate is subject to successful completion of surveillance audits. Further clarification regarding the scope of this certificate and the applicability of standard may be obtained by consulting the Organisation on info@sckcerts.com

Certificate of Registration



This is to certify that Educational Organizations Management System of

A.R. BURLA MAHILA VARISHTHA MAHAVIDYALAYA

AT-C.S.No-9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur,
Dist- Solapur, Maharashtra, India-413005

is in accordance with the requirements of the following standard

ISO 21001:2018

(Educational Organizations Management System)

SCOPE

The college provides quality education to linguistically minority students. It aims to enhance satisfaction of learners by using proper teaching-learning methods and management systems. It attempts to show its excellence in curricular, co-curricular, extra curricular and research activities. It also introduces Short Term Courses, Internships, Projects and Skill Development Training Programs to nurture employability skills among the students. It provides Value Added Courses to inculcate basic human values, social harmony, national integrity and professional ethics and fosters students to develop technical skills, learning methods and entrepreneurial leadership. It always strives for global competence and local acquaintance.

Certificate Number : SCK/17/ARB/23/91/1446

To verify certificate, visit at :

www.sckcerts.com

www.iafcertsearch.org

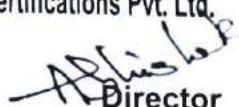
Initial Registration Date : 25-Mar-2023

1st Surveillance Date : 25-Feb-2024

2nd Surveillance Date : 25-Feb-2025

Certificate Expiry Date : 24-Mar-2026

Issued by SCK Certifications Pvt. Ltd.


Director



Accreditation Board : 3060, Saturn Street, Suite 100, Brea, California 92821-1732, USA

This certificate remains the property of SCK and must be returned to SCK on Cancellation or Suspension of the certificate. Validity of the certificate is subject to successful completion of surveillance audits. Further clarification regarding the scope of this certificate and the applicability of standard may be obtained by consulting the Organisation on info@sckcerts.com



NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL, BENGALURU

F. No. 14-29/2022

26th May 2022

Advisory on ISO 9001/Green Certificates/Audits

As per the resolution of 96th meeting of the Executive Committee of NAAC held on 26th May 2022, in the manuals for Self-Study Report for institutional accreditation there are couple of metrics on quality audit; green audit, energy audit, and environmental audit;

This has led to several institutions going for certifications and falling prey to unscrupulous private certifying/audit agencies issuing certificates to unsuspecting academic institutions.

It is informed that there is an international system of accreditation of such audit/certifying agencies in which the National Accreditation Board of Certification Bodies (NABCB), a constituent Board of the Quality Council of India, attached to the Ministry of Commerce & Industry, is member from India (website - <http://nabcb.qci.org.in/index.php>). The international system for certification operates under the aegis of the International Accreditation Forum (IAF) and its member accreditation bodies (ABs) are listed on its website iaf.nu. Similarly, for inspection/audit, which is a one-time activity, the international system is operated under the International Laboratory Accreditation Cooperation (ILAC) of which also NABCB is a member. A list of ILAC members can be seen on its website <https://ilac.org/>

It is therefore advised that the following should be observed:

1. It should be ensured that the ISO 9001 certificates are from certifying agencies accredited either by NABCB or any member AB of IAF. The certificate should carry the logo of the AB concerned.
2. There is now an ISO standard for educational institutions, ISO 21001, and institutions may obtain certification under this standard from any certifying agency as mentioned in 1. above in lieu of ISO 9001 certification.

3. As for green certification, there are recognized standards such as ISO 14001 for environment management systems or ISO 50001 for energy management systems which promote green practices and certificates to these may be obtained following advice in 1. above.
4. Any other certification claimed to be green certification should be to a recognized standard and the agency should be accredited as mentioned in 1. above
5. In case any institution goes for a one-time green audit, it should ensure that the agency is accredited as per ISO 17020 for a recognized standard/criteria for green audits by NABCB or any member of ILAC and the report/certificate carries logo of the AB.

The logo of the AB on the certificate ensures that the audit/certifying agency is accredited for auditing/certifying educational institutions and hence essential.

All academic institutions who have already obtained such certificates should check that they have authentic certificates and if not, ensure that these are replaced as per above advisory within one year.

In case of any doubts, academic institutions may consult NABCB at nabcb@qcin.org.

Sd/-
Director, NAAC

CRITERION VII

**SCK CERTIFICATION
PVT. LTD.**





SCK CERTIFICATIONS PRIVATE LIMITED

Format No.

SCK-F-11(B)

Rev. No.

01

Date

27.01.2023

Stage-01 Audit Report-EMS

Name of the Organization	A.R. Burla Mahila Varishtha mahavidyalaya				
Address	C.S.No-9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Dist-Solapur, Maharashtra, India-413005.				
Site Address (If any)	-				
No. of Employees	38				
E mail id	arburla@gmail.com				
Contact Person	9623000768				
Telephone/Fax	0217-2743908				
Scope					
Technical Area	The college strives for conservation of nature and natural resources. It endeavors conservation of biological diversity and control of environmental pollution. It creates environmental consciousness by organizing activities like tree plantation and conservation. It makes campus plastic free; creates Ozone space; uses solar energy; saves rainwater and makes use of vermicomposting.				
Exclusions	-				
Audit Team	Lead Auditor: Sunil Rathod Auditor: Technical Expert:	Audit duration Man day(s):2			
Start date of Audit	27/01/2023				
End Date of Audit	28/01/2023				
Brief about the organization	Educational				
Audit Objective	To evaluate the client's documented system, location & site-specific conditions and gather other details through discussions with the client's personnel to determine the organization's readiness for the Stage 2 Audit for Certification.				

CHANGE DETAIL

Audit Duration for Stage 1	
Are quoted man-days adequate?	N
Any change in employee detail?	N



SCK CERTIFICATIONS PRIVATE LIMITED

Format No.

SCK-F-11(B)

Rev. No.

01

Stage-01 Audit Report-EMS

Date

27.01.2023

Any Change in Scope?

N

Any additional Information:

N

SUMMARY OF AUDIT**AREA OF IMPROVEMENT**

(Areas of Improvement Which May Be Identified as Non-Conformities During Stage-1 Audit)

Non-Conformities Raised:

Minor/Major Non-conformance identified in the Stage 1 audit, details of Non-Conformance in NC Sheet.

Please respond by using your own corrective action form and include the root cause analysis with systemic corrective action. Failure to include root cause analysis with systemic corrective action will result in your responses being rejected by Lead Auditor

Team Leader Declaration (Tick or cross Each Column as per applicability) Auditing is based on a sampling process of the available information Audit is combined, joint or integrated; The effectiveness of corrective actions taken regarding previously identified nonconformities have verified outcomes are effective and complying. The internal audit and management review process are effective and complying with the requirements. The scope of certification is appropriate. The capability of the management system to meet applicable requirements and expected The audit objectives have been fulfilled and achieved.**RECOMMENDATION** Recommended Proceeding with Stage 2 (within 60 days from this audit date)



	Recommend not proceeding to stage 2 until audit evidence has been submitted to SCK showing that the concerns raised by the auditor (s) have been rectified. A date for stage 2 will then be agreed.
	Recommend not proceeding without a further stage-1 Audit due to the severity of the concerns raised by the audit team

Sign Off. Date: 28/01/2023	
SCK Report Submission	Client Acceptance for Report
Name of Auditor: Sunil Rathod Signature:	Name: Sign Designation:

For Official Use Only {Stage-01 Audit Report Verification}	
By Technical Reviewer	By Quality Manager
Name of Reviewer:	Name:
Signature:	Signature:
Comment and Recommendation for Proceeding Stage -02 Audit	

AUDIT CHECKLIST

REQUIREMENTS	COMMENTS	Status C/NC/O	Comments by the Reviewer
Is the Information is documented as required as per the ISO 14001:2015?		C	
Has the discussion held with personnel of the Stakeholder College for readiness for stage-2?		C	
Are Process and support processes identified and determined?		C	
Has the Client site specific conditions are evaluated?		C	
Has the college identified key performance, Process? Objectives, Impact and Aspect		C	

**SCK CERTIFICATIONS PRIVATE LIMITED**

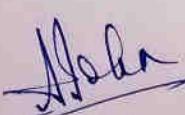
Format No. SCK-F-11(B)

Rev. No. 01

Stage-01 Audit Report-EMS

Date 27.01.2023

analysis and operation of Management System?			
Has the client having understanding with the ISO 14001:2015 Standard requirement?		C	
Is the scope is having boundaries and specific to client organization?		C	
Is client having Multisite then level of control is established.		C	
Is process and Equipment used are adequate?		C	
Has client identified Legal and Statutory Requirements applicable to Product and Organization? (List out all the Details of Every Legal and other Requirements)		C	
Is the resource being adequate for stage 2 audit?		C	
Is Internal Audit planned and performed and effective?		C	
Is MRM planned and performed and Effective?		C	

END OF REPORT


Dr. Annie John
Co-ordinator, IQAC
A.R. Burla Mahila Varishtha
Mehavidyalaya, Solapur.



(Dr. Rajendra Shendage,
PRINCIPAL
A. R. Burla Mahila Varishtha
Mehavidyalaya, Solapur.



Name of the Organization	A.R. Burla Mahila Varishtha mahavidyalaya	
Address	C.S.No-9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Dist- Solapur, Maharashtra, India-413005.	
Site Address (If any)	-	
No. of Employees	38	
No. of Shift	1	
E mail id	arburla@gmail.com	
Contact Person	9623000768	
Telephone/Fax	0217-2743908	
Scope	The college strives for conservation of nature and natural resources. It endeavours conservation of biological diversity and control of environmental pollution. It creates environmental consciousness by organizing activities like tree plantation and conservation. It makes campus plastic free; creates Ozone space; uses solar energy; saves rainwater and makes use of vermicomposting.	
Technical Area	-	
Exclusion	-	
Audit Team	Lead Auditor: Sunil Rathod Auditor: Technical Expert:	No. of Mandays:2
Starting Date of Audit	20/03/2023	
End Date of Audit	21/03/2023	
Brief about the organization	Educational	
Purpose of Audit	To verify the implementation of the Environmental Management System as per the Standards Requirement, verification of records for the conformity of the implementation.	

CHANGE DETAIL:

Audit Duration for Stage 2:	
Are quoted man-days adequate?	N
Any change in employee detail?	N
Any Change in Scope?	N
Any additional Information:	N

SUMMARY OF AUDIT



AREA OF IMPROVEMENTS

Non-Conformities Raised

____ Minor/Major Non-conformance identified in the Stage-2 audit, details of Non-Conformance in NC Sheet.

Please respond by using our own corrective action form and include the root cause analysis with systemic corrective action. Failure to include root cause analysis with systemic corrective action will result in your responses being rejected by Lead Auditor

Team Leader Declaration (Tick or cross Each Column as per applicability)

<input type="checkbox"/>	Auditing is based on a sampling process of the available information
<input type="checkbox"/>	Audit is combined, joint or integrated;
<input type="checkbox"/>	The effectiveness of corrective actions taken regarding previously identified nonconformities have verified
<input type="checkbox"/>	Outcomes are effective and complying.
<input type="checkbox"/>	The internal audit and management review process are effective and complying with the requirements.
<input type="checkbox"/>	The scope of certification is appropriate.
<input type="checkbox"/>	The capability of the management system to meet applicable requirements and expected
<input type="checkbox"/>	The audit objectives have been fulfilled and achieved.

Recommendation:

<input type="checkbox"/>	The EMS complies with the requirements of the reference standard: Congratulations, on the basis of the above summary, Lead Auditor is pleased to put forward a recommendation for Issuance of Certificate. The organization can use the SCK Mark
<input type="checkbox"/>	The EMS complies with the requirements of the reference standard with exception of minor NC: Congratulations, Team Leader is pleased to put forward a recommendation for Issuance of the certificate of Organization upon off-site verification of closure of all minor NC within 60 days from the date of Stage-2 audit. Responses to the non-conformances should be submitted to SCK and must include supporting evidence of closure to allow for off-site verification. In responding to the non-conformances, the organization should consider the root cause of the non-conformance and the potential for related issues in other parts of system. If all non-conformances are not closed within 60 days, a full reassessment may be required.



Evidence of major non conformities: Organization is not recommended for issuance of Certificate and at this time. Follow-up audit will be scheduled to allow for on-site verification and closure of all issues within 60 days from the date of Stage 2.

Once all non-conformances are closed, the recommendation for issuance of certification may be recommended.

If all non-conformances are not closed within 60 days, a full reassessment may be required.

Not Recommended: Organization is not recommended for issuance of certificate at this time. Full Stage 2 audit is required as the organization has not implemented the system and process at pace.

Proposed Audit Date for 1st Surveillance Audit (mm/dd/yy)

Sign Off Date: 22/03/2023

SCK Report Submission

Client Acceptance for Report

Name of Team Leader: Anil

Name:

Signature:

Sign

Designation:

AUDIT CHECKLIST

VERIFICATION OF DOCUMENTED INFORMATION & RECORDS AS PER STD REQUIREMENT (C- Conformity, NC-Non-Conformity, O-Observation)

Clause Number	C/NC/O	Document Verification detail with statement of Conformity
4.1 Understanding the organization and its context (Determination of external and internal Issues)	C	
4.2 Understanding the needs and expectations of interested parties (Determination, Monitor & Review of the Interested Parties)	C	
4.3 Determine and maintained Documented Information the scope of the Environmental management system (Boundaries and Type of Product and Services and any requirement not applicable)	C	
4.4 Environmental management system and its processes (Established, Implement and maintained, process and Interaction of Process)	C	
5.1 Leadership & Commitment (Statement of ensurity)	C	
5.2 Environmental policy (Documented Information, Establish, Implement, Maintain, communicated and understood)	C	
5.3 Organizational roles, responsibilities	C	

**SCK CERTIFICATIONS PRIVATE LIMITED**

Format No. SCK-F-12(B)

Stage-02 Audit Report-EMS

Rev. No. 00

Date 21.03.2023

Evidence of major non conformities: Organization is not recommended for Issuance of Certificate and at this time. Follow-up audit will be scheduled to allow for on-site verification and closure of all issues within 60 days from the date of Stage 2.

Once all non-conformances are closed, the recommendation for Issuance of certification may be recommended.

If all non-conformances are not closed within 60 days, a full reassessment may be required.

Not Recommended: Organization is not recommended for Issuance of certificate at this time. Full Stage 2 audit is required as the organisation has not implemented the system and process at pace.

Proposed Audit Date for 1st Surveillance Audit (mm/dd/yy)

Sign Off Date: 22/03/2023

SCK Report Submission

Name of Team Leader: Anil

Signature:

Client Acceptance for Report

Name:

Sign

Designation:

AUDIT CHECKLIST

VERIFICATION OF DOCUMENTED INFORMATION & RECORDS AS PER STD REQUIREMENT (C- Conformity, NC-Non-Conformity, O-Observation)

Clause Number	C/NC/O	Document Verification detail with statement of Conformity
4.1 Understanding the organization and its context (Determination of external and Internal Issues)	C	
4.2 Understanding the needs and expectations of interested parties (Determination, Monitor & Review of the Interested Parties)	C	
4.3 Determine and maintained Documented Information the scope of the Environmental management system (Boundaries and Type of Product and Services and any requirement not applicable)	C	
4.4 Environmental management system and its processes (Established, Implement and maintained, process and interaction of Process)	C	
5.1 Leadership & Commitment (Statement of ensurity)	C	
5.2 Environmental policy (Documented Information, Establish, Implement, Maintain, communicated and understood)	C	
5.3 Organizational roles, responsibilities	C	



SCK CERTIFICATIONS PRIVATE LIMITED

Format No. SCK-F-12(B)

Rev. No. 00

Date 21.03.2023

Stage-02 Audit Report-EMS

and authorities	
6.1.1 Actions to address risks and opportunities (Risk Assessment has done with prevention of undesirable effects)	
6.1.2 Determination and maintained documented information of Environmental Aspect, associated impacts Criteria Used and significant aspects and, of the activity and Environmental Impacts	C
6.1.3 Determination of the Compliances Obligation and maintained documented information how to comply.	C
6.1.4 Planning action for Environmental aspect, Compliance Obligation and Risk and Opportunities.	C
6.2 Environmental objectives and planning to achieve them (Documented, Measurable, Monitored and communicated)	C
7.1 Resources (Resource needed for Continual Improvement)	C
7.2 Competence (Employee records & Competence skill matrix)	C
7.3 Awareness (Environmental Policy, Objectives & Effectiveness of EMS)	C
7.4 Communication (what, who, when, whom, how with retained documented information)	C
7.5 Documented information (External Origin, Creation, Updation, Distribution, Preservation, version control, Retention and disposition)	C
8.1 Operational planning and control (Plan, Implement and control of process, documented information for process carried out as planned and Conformity of product or services)	C
8.2 Emergency Prepared and Responses (Mitigation of Adverse Environmental Impact, Respond to Emergency situation, periodically review and Training of the Emergency)	C
9.1.1 Monitoring, Measurement analysis and evaluation	C
9.1.2 Evaluation of Compliances Documented (Frequency and Action on Evaluation)	C
9.2 Internal Audit (Frequency and Documented Information for Implementation of Audit Program and the audit result)	C
9.3 Management Review	C



(Frequency, Input, Output, Documented Information for MRM Results)		
10.1 Improvement – General	C	
10.2 Nonconformity and corrective action (Documented Information for nature of NC and result of action taken)	C	
10.3 Continual improvement	C	

END OF REPORT

Dr. Annie John
Co-ordinator, IQAC
A.R. Burla Mahila Varishtha
Mahavidyalaya, Solapur.

(Dr. Rajendra Shendage)
PRINCIPAL
A. R. Burla Mahila Varishtha
Mahavidyalaya, Solapur.

**SCK CERTIFICATIONS PRIVATE LIMITED**

Format No. SCK-F-11(H)

Rev. No. 00

Stage-01 Audit Report-EOMS

Date 28.01.2023

Name of the Organization	A.R. Burla Mahila Varishtha mahavidyalaya				
Address	C.S.No-9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Dist- Solapur, Maharashtra, India-413005.				
Site Address (If any)	-				
No. of Employees	38				
No. of Shift	1				
E mail id	arburla@gmail.com				
Contact Person	9623000768				
Telephone/Fax	0217-2743908				
Scope	<p>The college provides quality education to linguistically minority students. It aims to enhance satisfaction of learners by using proper teaching-learning methods and management systems. It attempts to show its excellence in curricular, co-curricular, extra-curricular and research activities. It also introduces Short Term Courses, Internships, Projects and Skill Development Training Programs to nurture employability skills among the students. It provides Value Added Courses to inculcate basic human values, social harmony, national integrity and professional ethics and fosters students to develop technical skills, learning methods and entrepreneurial leadership. It always strives for global competence and local acquaintance.</p>				
Technical Area	-				
Exclusions	-				
Audit Team	Lead Auditor: Sunil Rathod Auditor: Technical Expert	Audit duration Man day(s):2 Technical Expert			
Starting date of Audit	27/01/2023				
End Date of Audit	28/01/2023				
Brief about the organization	Educational				
Audit Objective	To evaluate the client's documented system, location & site-specific conditions and gather other details through discussions with the client's personnel to determine the organization's readiness for the Stage 2 Audit for Certification				

CHANGE DETAIL

Audit Duration for Stage 1

Are quoted man-days adequate?	N
Any change in employee detail?	N
Any Change in Scope?	N
Any additional Information:	N

ATTENDENCE SHEET:

NAME OF PERSON	DESIGNATION

SUMMARY OF AUDIT

AREA OF IMPROVEMET

(Areas of Improvement Which May be Identified as Non Conformities During Stage 2 Audit)

SCK CERTIFICATIONS PRIVATE LIMITED

Format No.

SCK-F-11(H)

Rev. No.

00

Date

28.01.2023

Stage-01 Audit Report-EOMS

Non Conformities Raised

Minor/Major Non conformance identified in the Stage 1 audit, details of Non Conformance in Audit Observation Sheet (SCK-F-10).

Please respond by using your own corrective action form and include the root cause analysis with systemic corrective action. Failure to include root cause analysis with systemic corrective action will result in your responses being rejected by Lead Auditor

Team Leader Declaration (Tick or cross Each Column as per applicability)

Auditing is based on a sampling process of the available information

Audit is combined, joint or integrated;

The effectiveness of corrective actions taken regarding previously identified nonconformities has verified

outcomes are effective and complying.

The internal audit and management review process are effective and complying with the requirements.

The scope of certification is appropriate.

The capability of the management system to meet applicable requirements and expected

The audit objectives has been fulfilled and achieved.

RECOMMENDATION

Recommended Proceeding With Stage 2 (within 60 days from this audit date)

Recommend not proceeding to stage 2 until audit evidence has been submitted to SCK showing that the concerns raised by the auditor (s) have been rectified. A date for stage 2 will then be agreed.

Recommend not proceeding without a further stage 1 Audit due to the severity of the concerns raised by the audit team

Sign Off : Date 28/01/2023

SCK Report Submission

Name of Auditor: Sunil Rathod

Signature:

Client Acceptance for Report

Name:

Sign

Designation:



SCK CERTIFICATIONS PRIVATE LIMITED

Format No.

SLK-F-11(H)

Rev. No.

00

Stage-01 Audit Report-EOMS

Date

28.01.2023

AUDIT CHECKLIST**VERIFICATION OF DOCUMENTATION & RECORDS AS PER ISO 21001:2018 STD REQUIREMENT**
(C- Conformity, NC-Non Conformity, O-Observation)

Requirements	C/NC/O	Document Verification detail with statement of Conformity
Verification of EOMS Manual (Including all the Details such as Date, Rev. No., Issue No. Etc.)	C	
Verification of Documented Procedures Established within the Organization w.r.t. EOMS	C	
Review of other Procedures for the Suitable Control of the Educational Processes Involved within the Organization	C	
Review of Formats and Records as per EOMS (Issue no., date, changes etc.)	C	
Review the client's site specific condition	C	
Processes and Departments Established within the Organization	C	



Review of Status of Internal Audit (Planned & performed)	C	
Review of Status of MRM (Planned & performed)	C	
Is client ready for stage 2 and when?	C	

END OF REPORT

Dr. Annie John
Co-ordinator, IQAC
A.R. Burla Mahila Varishtha
Mahavidyalaya, Solapur.

(Dr. Rajendra Shendage)
PRINCIPAL
A. R. Burla Mahila Varishtha
Mahavidyalaya, Solapur.



Name of the Organization	A.R. Burla Mahila Varishtha mahavidyalaya	
Address	C.S.No-9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Dist-Solapur, Maharashtra, India-413005.	
Site Address (If any)	-	
No. of Employees	38	
No. of Shift	1	
E mail id	arburla@gmail.com	
Contact Person	9623000768	
Telephone/Fax	0217-2743908	
Scope	<p>The college provides quality education to linguistically minority students. It aims to enhance satisfaction of learners by using proper teaching-learning methods and management systems. It attempts to show its excellence in curricular, co-curricular, extra-curricular and research activities. It also introduces Short Term Courses, Internships, Projects and Skill Development Training Programs to nurture employability skills among the students. It provides Value Added Courses to inculcate basic human values, social harmony, national integrity and professional ethics and fosters students to develop technical skills, learning methods and entrepreneurial leadership. It always strives for global competence and local acquaintance.</p>	
Technical Area	-	
Audit Team	Lead Auditor: Sunil Rathod Auditor: Technical Expert	No of Mandays:2
Starting date of Audit	20/03/2023	
End date of Audit	21/03/2023	
Brief about the organization	Educational	
Purpose of Audit	To verify the implementation of the Educational Organization Management System as per the ISO 21001:2018 Standards Requirement, verification of records for the conformity of the implementation.	

CHANGE DETAIL:

Audit Duration for Stage 2	
Are quoted man-days adequate?	N
Any change in employee detail?	N
Any Change in Scope?	N
Any additional Information:	N



SCK CERTIFICATIONS PRIVATE LIMITED

Format No. | SCK-F-12(H)

Rev. No. 00

Date 20/03/2023

Stage-02 Audit Report-EOMS

ATTENDENCE SHEET:

SUMMARY OF AUDIT

AREA OF IMPROVEMENTS

**Non-Conformities Raised**

Minor/Major Non-conformance identified in the Stage 2 audit, details of Non-Conformance in Audit Observation Sheet (SCK-F-10)

Please respond by using your own corrective action form and include the root cause analysis with systemic corrective action. Failure to include root cause analysis with systemic corrective action will result in your responses being rejected by Lead Auditor

Team Leader Declaration (Tick or cross Each Column as per applicability)

<input type="checkbox"/> Auditing is based on a sampling process of the available information
<input type="checkbox"/> Audit is combined, joint or integrated:
<input type="checkbox"/> The effectiveness of corrective actions taken regarding previously identified nonconformities has verified outcomes are effective and complying.
<input type="checkbox"/> The internal audit and management review process are effective and complying with the requirements.
<input type="checkbox"/> The scope of certification is appropriate.
<input type="checkbox"/> The capability of the management system to meet applicable requirements and expected
<input type="checkbox"/> The audit objectives has been fulfilled and achieved.

Recommendation:

	The quality system complies with the requirements of the reference standard: Congratulations, on the basis of the above summary, Lead Auditor is pleased to put forward a recommendation for Issuance of Certificate. The organization can use the SCK Mark
	The quality system complies with the requirements of the reference standard with exception of minor NC: Congratulations, Team Leader is pleased to put forward a recommendation for Issuance of the certificate of Organization upon off-site verification of closure of all minor NC within 60 days from the date of Stage 2 audit. Responses to the non-conformances should be submitted to SCK and must include supporting evidence of closure to allow for off-site verification. In responding to the non-conformances, the organization should consider the root cause of the non-conformance and the potential for related issues in other parts of system. If all non-conformances are not closed within 60 days, a full reassessment may be required.
	Evidence of major non-conformities: Organization is not recommended for Issuance of Certificate and at this time. Follow-up audit will be scheduled to allow for on-site verification and closure of all issues within 60 days from the date of Stage 2. Once all non-conformances are closed, the recommendation for Issuance of certification may recommended. If all non-conformances are not closed within 60 days, a full reassessment may be required.
	Not Recommended: Organization is not recommended for Issuance of certificate at this time. Full Stage 2 audit is required as the organisation has not implemented the system and process at pace..
	<i>Proposed Audit Date for 1st Surveillance Audit 27/01/2023 (mm/dd/yyyy)</i>



Sign Off : (Date) 22/03/2023

SCK Report Submission

Name of Team Leader: Anil

Signature:

Client Acceptance for Report

Name:

Sign

Designation:

AUDIT CHECKLISTVERIFICATION OF DOCUMENTED INFORMATION & RECORDS AS PER STD REQUIREMENT
(C- Conformity, NC-Non Conformity, O-Observation)

Clause Number	C/NC/O	Document Verification detail with statement of Conformity
<u>4. Context of the organization</u>		
4.1 Understanding the organization and its context	C	
4.2 Understanding the needs and expectations of interested parties	C	
4.3 Determining the scope of the management system for educational organizations	C	
4.4 Management system for educational organizations (EOMS)	C	
<u>5. Leadership</u>		
<u>5.1 Leadership and commitment</u>		
5.1.1 General	C	
5.1.2 Focus on learners and other beneficiaries	C	
5.1.3 Additional requirements for special needs education	C	
5.2 Policy	C	
5.3 Organizational roles, responsibilities and authorities	C	

6 Planning

- 6.1 Actions to address risks and opportunities
 6.1.1 and 6.1.2
 6.2 Educational organization objectives and planning to achieve them
 {6.2.1 & 6.2.2}
 6.3 Planning of changes

C

7 Support

- 7.1 Resources
 7.1.1 General
 {7.1.1.1 & 7.1.1.2}
 7.1.2 Human resources
 7.1.2.1 & 7.1.2.2
 7.1.3 Facilities
 {7.1.3.1, 7.1.3.2, 7.1.3.3}
 7.1.4 Environment for the operation of educational processes
 7.1.5 Monitoring and measuring resources
 7.1.5.1 General
 7.1.5.2 Measurement traceability

C

C

C

C

C

C

C

C

C

C

C

C

C

C

C

C

C

C

8 Operation

- 8.1 Operational planning and control
 8.1.1 General
 8.1.2 Specific operational planning and control of educational products and services
 8.1.3 Additional requirements for special needs education
 8.2 Requirements for the educational products and services
 8.2.1 Determining the requirements for the educational products and services

C

C

C

C

C

Stage-02 Audit Report-EOMS

8.2.2 Communicating the requirements for the educational products and services	C	
8.2.3 Changes to requirements for the educational products and services	C	
8.3 Design and development of the educational products and services	C	
8.3.1 General		
8.3.2 Design and development planning	C	
8.3.3 Design and development inputs	C	
8.3.4 Design and development controls	C	
8.3.4.1 General {8.3.4.1.1 & 8.3.4.1.1}		
8.3.4.2 Educational service design and development controls		
8.3.4.3 Curriculum design and development controls		
8.3.4.4 Summative assessment design and development controls		
8.3.5 Design and development outputs	C	
8.3.6 Design and development changes	C	
8.4 Control of externally provided processes, products and services	C	
8.4.1 General		
8.4.2 Type and extent of control	C	
8.4.3 Information for external providers	C	
8.5 Delivery of the educational products and services	C	
8.5.1 Control of delivery of the educational products and services		
8.5.1.1 General		
8.5.1.2 Admission of learners	C	
8.5.1.2.1 Pre-admission information	C	
8.5.1.2.2 Conditions for admission	C	
8.5.1.3 Delivery of educational products and services	C	
8.5.1.4 Summative assessment	C	
8.5.1.5 Recognition of assessed learning	C	
8.5.1.6 Additional requirements for special needs education {8.5.1.6.1, 8.5.1.6.2, 8.5.1.6.3 & 8.5.1.6.4}	C	
8.5.2 Identification and traceability	C	

Stage-02 Audit Report-EOMS

8.5.3 Property belonging to interested part	C	
8.5.4 Preservation	C	
8.5.5 Protection and transparency of learners' data	C	
8.5.6 Control of changes in the educational products and services	C	
8.6 Release of the educational products and services	C	
8.7 Control of the educational nonconforming output {8.7.1, 8.7.2, 8.7.3}	C	
9 Performance evaluation		
9.1 Monitoring, measurement, analysis and evaluation	C	
9.1.1 General	C	
9.1.2 Satisfaction of learners, other beneficiaries and staff	C	
9.1.2.1 Monitoring of satisfaction		
9.1.2.2 Handling of complaints and appeals		
9.1.3 Other monitoring and measuring needs	C	
9.1.4 Methods for monitoring, measurement, analysis and evaluation {9.1.4.1 & 9.1.4.2}	C	
9.1.5 Analysis and evaluation	C	
9.2 Internal audit {9.2.1 & 9.2.2}	C	
9.3 Management review	C	
9.3.1 General	C	
9.3.2 Management review inputs	C	
9.3.3 Management review outputs	C	
10 Improvement		
10.1 Nonconformity and corrective action {10.1.1 & 10.1.2}	C	
10.2 Continual improvement	C	
10.3 Opportunities for improvement	C	

END OF REPORT



Dr. Annie John
Co-ordinator
A. R. Burla Mahila Varishtha
Mahavidyalaya, Solapur.



(Dr. Rajendra Shevade)
PRINCIPAL
A. R. Burla Mahila Varishtha
Mahavidyalaya, Solapur.



Name of the Organization	A.R. Burla Mahila Varishtha mahavidyalaya	
Address	C.S.No-9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Dist- Solapur, Maharashtra, India-413005.	
Site Address (If any)	-	
No. of Employees	38	
No. of Shift	1	
E mail id	arburla@gmail.com	
Contact Person	9623000768	
Telephone/Fax	0217-2743908	
Scope	<p>The college provides quality education to linguistically minority students. It aims to enhance satisfaction of learners by using proper teaching-learning methods and management systems. It attempts to show its excellence in curricular, co-curricular, extra- curricular and research activities. It also introduces Short Term Courses, Internships, Projects and Skill Development Training Programs to nurture employability skills among the students. It provides Value Added Courses to inculcate basic human values, social harmony, national integrity and professional ethics and fosters students to develop technical skills, learning methods and entrepreneurial leadership. It always strives for global competence and local acquaintance.</p>	
Technical Area	-	
Audit Team	Lead Auditor: Sunil Rathod Auditor: Technical Expert	No. of Mandays: 2
Starting date of Audit	20/03/2023	
End date of Audit	21/03/2023	
Brief about the organization	Educational	
Purpose of Audit	To verify the implementation of the Quality Management System as per the ISO 9001:2015 Standards Requirement, verification of records for the conformity of the implementation.	

CHANGE DETAIL:

Audit Duration for Stage 2	
Are quoted man-days adequate?	N
Any change in employee detail?	N
Any Change in Scope?	N



SCK CERTIFICATIONS PRIVATE LIMITED

Format No.

SCK-F-12

Rev. No.

00

Stage-02 Audit Report-QMS

Date

20.03.2023

Any additional
Information:

N

SUMMARY OF AUDIT

AREA OF IMPROVEMENTS

Non-Conformities Raised

Minor/Major Non-conformance identified in the Stage-2 audit, details of Non-Conformance in NC Sheet.

Please respond by using our own corrective action form and include the root cause analysis with systemic corrective action. Failure to include root cause analysis with systemic corrective action will result in your responses being rejected by Lead Auditor.

Team Leader Declaration (Tick or cross Each Column as per applicability)

Auditing is based on a sampling process of the available information

Audit is combined, joint or integrated;

The effectiveness of corrective actions taken regarding previously identified nonconformities have verified

Outcomes are effective and complying.

The internal audit and management review process are effective and complying with the requirements.

The scope of certification is appropriate.

The capability of the management system to meet applicable requirements and expected

The audit objectives have been fulfilled and achieved.

Recommendation:

The quality system complies with the requirements of the reference standard:

Congratulations, on the basis of the above summary, Lead Auditor is pleased to put forward a recommendation for Issuance of Certificate. The organization can use the SCK Mark



The quality system complies with the requirements of the reference standard with exception of minor NC: Congratulations, Team Leader is pleased to put forward a recommendation for Issuance of the certificate of Organization upon off-site verification of closure of all minor NC within 60 days from the date of Stage 2 audit. Responses to the non-conformances should be submitted to SCK and must include supporting evidence of closure to allow for off-site verification. In responding to the non-conformances, the organization should consider the root cause of the non-conformance and the potential for related issues in other parts of system.

If all non-conformances are not closed within 60 days, a full reassessment may be required.

Evidence of major non conformities: Organization is not recommended for Issuance of Certificate and at this time. Follow-up audit will be scheduled to allow for on-site verification and closure of all issues within 60 days from the date of Stage 2.

Once all non-conformances are closed, the recommendation for Issuance of certification may be recommended.

If all non-conformances are not closed within 60 days, a full reassessment may be required.

Not Recommended: Organization is not recommended for Issuance of certificate at this time. Full Stage 2 audit is required as the organisation has not implemented the system and process at pace..

Proposed Audit Date for 1st Surveillance Audit 27/01/2023(mm/dd/yyyy)

Sign Off Date: 22/03/2023

SCK Report Submission

Client Acceptance for Report

Name of Team Leader: Anil

Name:

Signature:

Sign (If Possible):

Designation:

AUDIT CHECKLIST

VERIFICATION OF DOCUMENTED INFORMATION & RECORDS AS PER STD REQUIREMENT (C- Conformity, NC-Non-Conformity, O-Observation)		
Clause Number	C/NC/O	Document Verification detail with statement of Conformity
4.1 Understanding the organization and its context (Determination of external and Internal Issues)	C	
4.2 Understanding the needs and expectations of interested parties (Determination, Monitor & Review of the Interested Parties)	C	
4.3 Determining the scope of the quality management system (Boundaries and Type of Product and Services and any requirement not applicable)	C	



4.4 Quality management system and its processes (Established, Implement and maintained, process and Interaction of Process)	C	
5.1.1 Leadership & Commitment (Statement of ensurity)	C	
5.1.2 Customer focus (statement of conformity)	C	
5.2 Quality policy (Establish, Implement, Maintain, communicated and understood)	C	
5.3 Organizational roles, responsibilities and authorities	C	
6.0 Planning	C	
6.1 Actions to address risks and opportunities (Risk Assessment has done with prevention of undesirable effects)	C	
6.2 Quality objectives and planning to achieve them (Documented, Measurable, Monitored and communicated)	C	
6.3 Planning of changes (As per 4.4) and Purpose, resource availability and allocation	C	
7.1 Resources (Need of External resources, People, Infrastructure, Environment, Calibration records, Organizational Knowledge)	C	
7.2 Competence (Employee records & Competence skill matrix)	C	
7.3 Awareness (Quality Policy, Objectives & Effectiveness of QMS)	C	
7.4 Communication (what, who, when, whom, how)	C	
7.5 Documented information (External Origin, Creation, Updation, Distribution, Preservation, version control, Retention and disposition)	C	
8.1 Operational planning and control (Plan, Implement and control of process, documented information for process carried out as planned and Conformity of product or services)	C	
8.2.1 Customer communication (Enquiries, Contract, order, feedback, complaints)	C	
8.2.2 Determining of Requirements for products and services (Objective evidence for record of contract review and approval, Record verification of Statutory & Regulatory shall be referred here, record for communication of changes, legal requirements need to be re-verified if any concerns identified in Stage 1 audit or any new product added)	C	

Stage-02 Audit Report-QMS

8.2.3 Review of the requirements for products and services (Documented Information for Result of review and any new requirements for product or services)	C	
8.2.4 Changes to requirements for products and services (the changed documents are aware and approved by relevant person)	C	
8.3 Design and Development (D&D)	C	
8.3.1 General Establish, Maintain and Implement the D&D Process	C	
8.3.2 D&D Planning (Record reference) 7.3.3 D&D Inputs (Record reference for the inputs) 8.3.4 D&D Controls (Record reference & Approval) 8.3.5 D&D Outputs (Record reference for outputs) 8.3.6 D&D Changes (Record reference for changes, approved, validated & verified before implementation & actions as necessary)	C	
8.4.1 Control of externally provided processes, products and services (documented Information for criteria for the evaluation, selection, monitoring of performance and re-evaluation)	C	
8.4.2 Type and extent of control (Control Verification)	C	
8.4.3 Information for external providers (Competence and qualification of external provider)	C	
8.5.1 Control of production and service provision (Records verified work instructions for the processing including delivery and post-delivery activities, characteristic of product, equipment's use and availability for monitoring and measurement)	C	
8.5.2 Identification and Traceability (Records verified for identification batch no or serial no in process as well as final dispatch)	C	
8.5.3 Property belonging to customers or external providers (Documented Information of Lost or damaged property)	C	
8.5.4 Preservation of output (objective evidence for meeting the defined storage conditions for handling, packaging, storage and protection)	C	
8.5.5 Post-delivery activities (Life time, maintenance, Warranty & Guarantee, Final Disposal)	C	



8.5.6 Control of changes (Documented Information change review result, person who is authorized to changes)	C	
8.6 Release of products and services (Planned Arrangement documented information for acceptance criteria and authorized person traceability)	C	
8.7 Control of nonconforming outputs (Documented Information for Non conformity, action taken, concession, authority deciding action)	C	
9.1.1 Monitoring, Measurement analysis and evaluation	C	
9.1.2 Stakeholder Satisfaction (Analysis of Stakeholder Satisfaction)	C	
9.1.3 Analysis and Evaluation	C	
9.2 Internal Audit (Frequency and Documented Information for Implementation of Audit Program and the audit result)		
9.3 Management Review (Frequency, Input, Output, Documented Information for MRM Results)		
10.1 Improvement – General		
10.2 Nonconformity and Corrective action (Documented Information for nature of NC and result of action taken)		
10.3 Continual improvement		

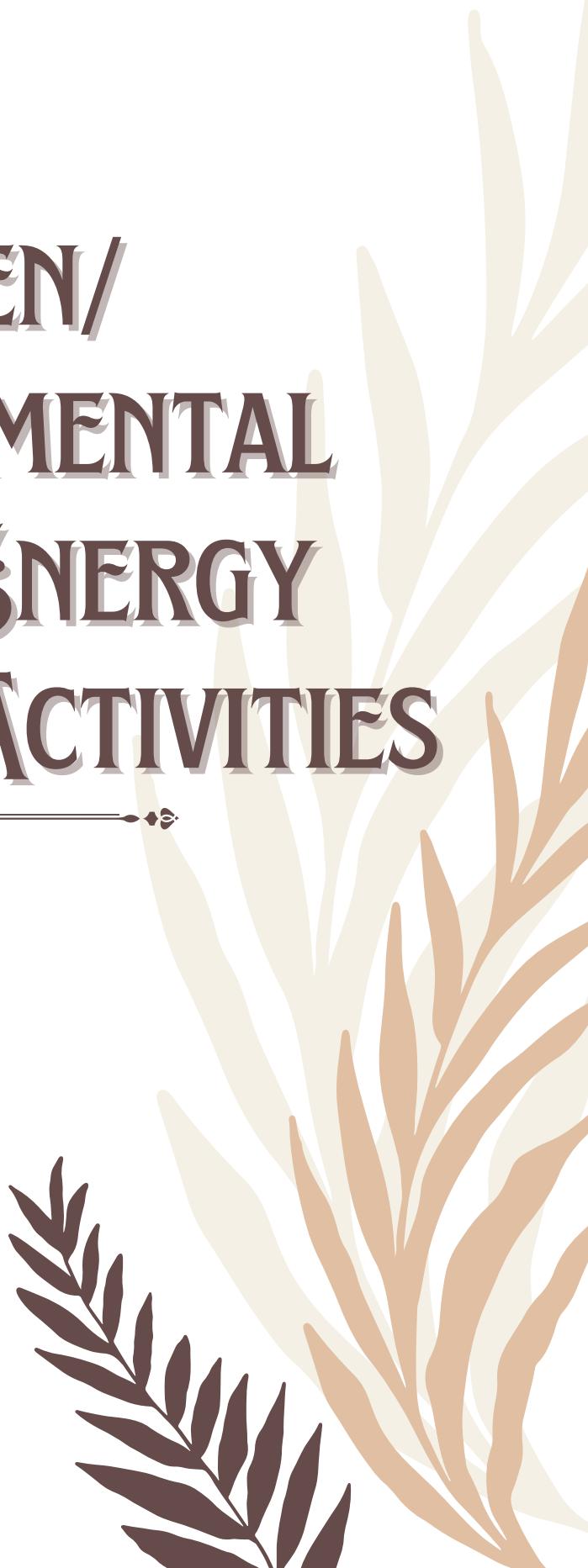
END OF REPORT

Dr. Annie John
Co-ordinator, IQAC
A. P. Ruia Mahila Vidyapeeth
Mehmedpura, Goa, India

(Dr. Rajendra Shendage)
PRINCIPAL
A. R. Baria Mahila Vidyapeeth
Mehmedpura, Goa, India

CRITERION VII

GREEN/ ENVIRONMENTAL AUDIT, ENERGY AUDITS & ACTIVITIES



Environment Audit Certificate

is awarded for **2020-21 and 2021-22 (Analysed for 2 years)** to the Esteemed Institution

Padmashali Shikshan Sanstha's

Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya

City Survey No. 9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005

(Site visit held on Friday, 26 August 2022)

As part of the Institution's initiatives for a Healthy & Sustainable College the audit was conducted.
We appreciate the immense efforts taken by Staff and students towards the Environment Protection and Conservation.

Issued on **Friday, 26 August 2022** valid till **August 2023**



Ar. Nahida Shaikh

Architect, IGBC Accredited Professional, ISO Certified I. A. (IMS)
Assocham GEM Certified Professional (Regn. No. 22/718)

Project Head and Green Building Professional-Consultant

Sustainable Academe

Sustainability Department of Greenvio Solutions, Naigaon

An environment Design and Consultancy developing Healthy and Sustainable Environments

sustainableacademe@gmail.com I greenviosolutions@gmail.com



ENVIRONMENT AUDIT

STUDY PERIOD (TWO YEARS) 2020-2021 AND 2021-2022

Sustainability study **AUDIT REPORT**

Studied for

Padmashali Shikshan Sanstha's

**Anusayabai Ramchandra Burla
Mahila Varishtha Mahavidyalaya**

City Survey No. 9705/9/A/2A, Raviwar Peth,
Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005

Studied in the capacity of

An accredited & Certified Green Building Professional



Valid till August 2023

Disclaimer

The Audit Team has prepared this report for the **Padmashali Shikshan Sanstha's Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya** located at City Survey No. 9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005 based on input data submitted by the College analysed 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 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 College. 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 period of time 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 has completed audits of multiple Institutes including Technical, State University, Private University and Single Faculty Colleges for a total of more than 60 lakhs+ sq. ft. of Built-up area audited till date Pan India as an Accredited and Certified Green Building Professional-Architect; ISO Certified I.A. (IMS). 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 in capacity of Accredited & Certified Green Building Professional with extensive experience.

Greenvio Solutions

Developing Healthy and Sustainable Environments

We are an Environmental and Architectural Design Consultancy firm

Sustainable Academe is our department for conducting Audits

Palghar District, Maharashtra- 401208

sustainableacademe@gmail.com

Acknowledgement

The Audit Assessment Team thanks the **Padmashali Shikshan Sanstha's Anusayabai Ramchandra Burla Mahila Varishta Mahavidyalay, Solapur** for assigning this important work of Environment Audit. We appreciate the cooperation extended to our team during the entire process.

Our special thanks are due to **Shri. Kashinath Parshuram Gaddam**, Chairman; **Shri. Shriniwas Vyankatpati Kondi**, Vice-Chairman; **Shri. Dashrath Narayan Gop**, Secretary; **Sou. Sangita Yashawant Indapure**, Joint Secretary; **Shri. Naganath Irayya Ganji**, Treasurer and everyone from the Management.

Our heartfelt thanks to Chairperson of the entire process **Dr. Rajendra Shendage**, Principal, for the valuable inputs.

We are also thankful to **College's Task force the faculty members** who have collected data required **Dr. Annie John**, Professor and IQAC Coordinator; **Prof. Battul Surekha Narhari**, Associate Professor; **Dr. Waghmare Panchappa Ramchandra**, Associate Professor (*Special mention for the excellent coordination*); **Dr. Joshi Prajakta Prakash**, Professor; **Dr. Bhanje Shivanand Baburao**, Professor; **Dr. Bhosale Shrish Naganath**, Professor; **Dr. Dalvi Rajani Jayant**, Professor and Director of Physical Education; **Dr. Landage Sanjay Sambhaji**, Professor; **Dr. Yakkaldevi Ashok Shivaji**, Professor; **Dr. Shinde Tukaram Narayan**, Professor; **Dr. Raje Shankar Shivaji**, Assistant Professor; **Prof. Mallade Savita Shashikant**, Librarian; **Dr. Wadje Rajendra Kailas**, Assistant Professor; **Dr. Shinde Tukaram Vitthal**, Assistant Professor; **Prof. Bansude Ranjana Vasant**, Assistant Professor and **Shri. Gundeli Shriniwas Ramdas** (Part Time), Assistant Professor.

We highly appreciate the assistance of **Mr. Gajul Venkatesh Mallesham**, Office Superintendent; **Mrs. Sadul Sanjeevani Nareshkumar**, Head Clerk; **Mr. Saggam Anil Rajaram**, Jr. Clerk; **Mr. Gajeli Satyanarayan Mallayya**, Jr. Clerk; **Mr. Ghagare Mahesh Revansiddh**, Library Attendant; **Mr. Maltumkar Santhosh Dhondiram**, Library Attendant; **Mrs. Kudkyal Uma Ambadas**, Helping staff; **Mr. Mhaisur Ramakant Vitthal**, Helping staff and 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

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5. Ecological (Environmental) Audit	13
6. Towards a Healthy & Sustainable Institution.....	22
7. References	23

1. Introduction

1.1 About the Padmashali Shikshan Sanstha

It was established on 9th November, 1912 by the patrons of Padmashali community. It is one of the largest and leading institutions in Solapur which constitutes 16 Schools and 04 Junior Colleges, 01 Night College (Junior) and 01 Senior College. It caters the needs of 15 thousand students every year thorough twenty two branches.

The students are basically from migrated families, minorities and on the whole from downtrodden societies. The institution successfully celebrated its Centenary in 2012. Patrons of this community, by their selfless service and dedication towards education, carved the future of many students in hundred years by establishing schools and colleges under Padmashali Shikshan Sanstha.

1.2 Statements of the Institution

Vision - To impart education to women which aims at Quality Education, Academic Excellence, Social Concern and Character Formation.

Mission - Empowerment of Women through Quality Education.

1.3 About the Institution

Seth Ramchandra Ramayya Burla was a successful textile businessman and manufacturer in Solapur. He pulled out all the stops to start senior College for the students hailed from Padmashali minority community. He is the donor of the many branches including Anusayabai Ramchandra Burla Mahila Mhavidyalaya.

He was aware of social commitment and closely associated with the important events of the institution as a well-wisher of Padmashali Education Institution. He donated his homes to start two schools and a college. Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya was inaugurated by former trustee and general secretary of the institute, Gangdharpant Kuchan.

The College imparts skill and career oriented education thorough short term and certificate courses. A large number of students are benefited by support services and inter - disciplinary activities provided by the college. The College also offers access to distance

mode of learning through the center of Yashwantrao Chavan Maharashtra Open University. The College has sound infrastructure, highly qualified and experienced teaching staff, number of support services and established tradition to provide quality education to the needy masses deprived of education.

The Motto of the College "To impart education to women which aims at Quality Education, Academic Excellence, Social Concern and Character Formation." **The Aim (Goals) of the College is as follows:**

1. To academically equip the minority students through the medium of higher education.
2. To inculcate basic human values and professional ethics.
3. To motivate students for innovation and creativity.
4. To nurture employability skills among the students.
5. To inculcate spirit of enquiry, scientific temper and research culture.
6. To foster students for academic integrity.
7. To encourage students for quest for excellence.
8. To promote students to use technology.

The Institution offers the following courses.

- **Bachelor of Arts (B.A.)**
- **Bachelor of Computer Applications (B.C.A.)**
- **Bachelor of Commerce (B.Com)**
- **Certificate Courses**
 - ⇒ Fashion designing
 - ⇒ Beauty parlour
 - ⇒ Small scale industries
 - ⇒ Value education and ethics
 - ⇒ Tourism
 - ⇒ Nursery development
 - ⇒ Tally with GST

- **Value Added Course**

⇒ Research Methodology

⇒ Professional ethics

The College works towards training young men and women to be competent, committed and compassionate, and lead in all walks of life. **It has the objective** "To Empower women through quality education."

1.4 The surrounding premises around the Institution

The Premises is situated amidst the landscape serene of **Solapur district of Maharashtra** with immense peace and calmness in the surroundings. There is a frontal approach which provides quite a beautiful appreciation space while approaching the premises; this area is surrounded by huge trees which positively complement the background-foreground aspect in terms of Natural space and built-form Architecture. It also provides ample shade which enhances the micro climate of the region. The location of College is feasible to the nearby essential amenities such as Public Health Center, Fire Station, Civic body-Public administrative buildings, Recreational gardens and Police Station which are not too close but nearby.

1.5 Assessment of the College

1.5.1 Affiliations

The College has all its courses approved and affiliated to **the Punyashlok Ahilyadevi Holkar Solapur University, Solapur, Maharashtra state.**

1.5.2 Certification

- **AISHE** – The code is C-15690.
- **NIRF** – The College has been participating in the NIRF rankings every year.
- **ISO** – The College is ISO 9001:2015 Certified.

1.5.3 Accreditation

NAAC - The following are details of the reaccreditation of the College.

Cycle	First	Second	Third
CGPA	-	2.62	2.76
Grade	B+	B	B++
Year	2004	2012	2017

Table 1: NAAC Accreditation details of the Institute

The College is due to enter its Fourth cycle of NAAC.

1.5.4 Recognitions

The College has achieved the following recognition from **University Grant Commission (UGC) under section 2 (f) and 12 (b) of the UGC Act by University Grants Commission, New Delhi.**

2. Institution overview

2.1 Populace analysis for Academic year 2021-2022

2.1.1 Students data

The student data (shared by the College) shows there were a total of **1,167 Girls students** in the premises.

2.1.2 Staff data

Type	Male	Female	Total
Admin Staff	04	01	05
Teaching Staff	09	06	15
Non-Teaching Staff	03	01	04
Total Staff Members	16	08	24

Table 2: Staff data of the Institution for 2021-2022

The staff data shows the premises had a total of **24** Staff Members.

2.2 Populace analysis for Academic year 2020-2021

2.2.1 Students data

The student data (shared by the College) shows there were a total of **1,170 Girls students** in the premises.

2.2.2 Staff data

Type	Male	Female	Total
Admin Staff	04	01	05
Teaching Staff	10	06	16
Non-Teaching Staff	03	01	04
Total Staff Members	17	08	25

Table 3: Staff data of the Institution for 2020-21

The staff data shows the premises had a total of **25** Staff Members.

2.3 Total College Area & College Building Spread Area

The **total site area is 1.10 Acres** and the **total Built-up area of College is 30,623 sq. ft. for a total of 1,191 footfalls.**

2.4 College Infrastructure

2.4.1 Establishment

The College was established in 1990. The College is located pretty close to nature and hence has very fresh environment which is absolutely pollution free and healthy. The Building is a Reinforced Cement Concrete (RCC) framework building. **Overall the Infrastructure of the Building is excellent in terms of the Architecture Design and Green Building Design. The Premises covers quite a few of the requirements for a Green Habitat.**

2.4.2 Spatial Organisation

The overall ambience of the College is warm and inviting. The classrooms and other spaces have ample natural ventilation in the form of clear glass windows with fresh air ventilation. The architecture of the building is quite well designed. The colour palette not just helps the building to stand out but also provides an Institutional arena. It balances with the local architecture with the natural landscapes of huge trees all around. The design emphasis on providing calmness to the built form and gradually merges with the serene landscape.

The floor to floor height is more than 10 feet. There is no provision for lifts in the premises, whereas there are amenities such as CCTV, Fire extinguishers, Library and first aid box.

2.4.3 Operation and maintenance of the premises

The interview session with the staff regarding the operation and working hours is summarized in the table. The Institution is open from Monday to Saturday. The detail wise timing for each is mentioned below.

S. No.	Section	Days	Time	Hours/ day	Days in a year
1	All Lectures	Monday to Saturday Except Holidays	7.30 am to 12.30 pm	5	280
2	Library Hours	Monday to Saturday Except Holidays	8 am to 5 pm	9	300
3	Administration	Monday to Saturday Except Holidays	10 am to 5 pm	7	300

Table 4: Schedule of the timings of the premises

3. Green Building Study Audit

3.1 About the Green Building Study Audit

It is a systematic study of the aspects which make the Institution a sustainable and healthy premises for its inhabitants.

3.2 Analysis for the Green Building Study Audit

The procedure included detailed verification for the following:

Energy Audit

- Analysis of the Lights, Fans, AC, Equipment
- Renewable energy
- Scope for reducing the current energy bills if any
- Improvement in the thermal comfort of the campus

Green Audit

- Green initiatives
- Hygiene audit
- Water Audit - Analysis of the current water consumption of campus; Scope to include Rain water harvesting and Waste water treatment in premises
- Waste Audit - Current waste produced, its segregation and usage; Strategies to be adopted for waste management and awareness

Environmental Audit

- Analysis of the current landscape + hardscape of campus
- Analysis of the flora and fauna of campus
- Strategies adopted at present to enhance vegetation
- Measures that can be adopted for ecological improvement of the premises.

3.3 Strategy adopted for Green Building Study Audit

The strategies included data collection from admin department, actual inventory, investigation to check the operation and maintenance, analysis of the data collected and preparation of the Report.

3.4 Timeline of the activities for Green Building Study Audit

- | | |
|------------------|---|
| • 10 March 2022 | – Allotment and Initiation by the College |
| • 12 March 2022 | – Induction Meeting |
| • 19 August 2022 | – Data submitted by College |
| • 23 August 2022 | – Survey of the Student and staff submitted |
| • 26 August 2022 | – Site visit at the premises |
| • 26 August 2022 | – Submission of the report |

On-site investigation and physical verification
Audit Team during the visit on 26 August 2022



Discussion at the rainwater harvesting and proposed garden area



On-site review with the Team



On-site discussion with the Team

4. Site Study

The following listed are some of the positive site elements which are beneficial to the College in terms of tangible and intangible benefits.

- **Location** - The Padmashali Shikshan Sanstha's Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya located at City Survey No. 9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005 and falls under the Solapur Municipal Corporation.
- **Neighbourhood context** - The premises is surrounding by open spaces and Residential, Commercial and Educational areas on the immediate surroundings of the site.
- **Natural physical features** – The premises includes a rich biodiversity and huge number of plants in the adjacent open space. The site does not have major difference in the land levels (contours).
- **Manmade features** – The premises is situated in an urban area amidst residential areas and open spaces with appropriate proximity to necessary amenities. There is sufficient appreciation space for entrance. The materials used for construction are RCC and the landscaping includes innumerable natural trees as well as potted plants.
- **Circulation** – There is a smooth transition of pedestrian traffic inside the premises due to the large entrance gate and the huge open space where vehicles of students and staff are parked.
- **Climate** – The climate here is tropical. The summers here have a good deal of rainfall, while the winters have very little. This location is classified as Aw by Köppen and Geiger. In Solapur, the average annual temperature is 27.3 °C | 81.2 °F. About 835 mm | 32.9 inch of precipitation falls annually.

(Source: <https://en.climate-data.org/asia/india/maharashtra/solapur-2803/>)

Ecological (Environment) Audit



Background reference image Yugal Shrivastava on pexels

5. Ecological (Environmental) Audit

Environment is an essential part for human survival. We co-exist with the environment and it cannot be termed as a separate entity. The Ecological audit helps to understand the flora, fauna that exists and steps that can be taken to improve the same. To denote if there are problems related to sound in and around the surrounding. In terms of the carbon footprint it helps in keeping a tab on the eco-friendly habits incorporated by the inhabitants of the premises. Health today is the topmost priority, a general understanding of the initiatives undertaken along with sufficient hygiene practices adopted. Universal design is applicable to all built and unbuilt spaces.

As part of our study we could state that the Institution has developed eco-friendly practices and sustainable solutions which are well reflected in the rich biodiversity of the Premises. Being situated near the city the appreciation space towards the main entrance provides a welcoming approach to the College.

The College has huge open space used by all. The students use it as a leisure place for study and College ground is used for sports activities. There are ample resting spaces as part of building design which provide a resting and warm welcoming approach in the premises.

5.1 Open Spaces

There is a beautiful balance of natural and open spaces in the premises and the open/vegetation spaces are balanced overall. The ground is used by students at present for sports and cultural gatherings. The design on the entire is such that the landscape and softscape spaces are very well oriented and located thus being extremely useful to Institutions in the site. **There are provisions for natural plantations which have enhanced the beauty of the space.**

There are adequate numbers of Maintenance staff allotted for the upgrading the open spaces and they have done an excellence job in terms of the duty allotted. The infrastructure committee too is involved in this process. The traditional tap and pipe facility is adopted for watering and the College has taken special provisions for the same. The spaces are watered daily in summer. **The efforts to maintain the existing space are commendable.**

5.2 Flora and fauna audit

5.2.1 Flora Audit

A flora survey was carried out to identify the total numbers of plants and trees every year. The landscape area has a variety of plantations constituting hundreds of surveyed trees in premises in the last few years as follows with detail description of each.

S. No.	Plant name	Type	Nos.	Planted by
1	Jacaranda Mimosifolia (Nilmohar)	Tree	12	Planted by staff, students
2	Delonix Regiarafin (Gulmohar)	Tree	17	Planted by staff, students
3	Vachellia Nitotica (Australian Babhul)	Tree	10	Planted by staff, students
4	Green Vegetation (Saag)	Tree	31	Planted by staff, students
5	Bambus Dendro Calmus (Bamboo)	Tree	6	Planted by staff, students
6	Azadirachata Indica (Kadulimb)	Herb	16	Planted by staff, students
7	Pimple	Tree	1	Planted by staff, students
8	Basil (Tulas)	Herb	55	Planted by staff, students
9	Poyalthia (Ashok)	Tree	7	Planted by staff, students
10	Chafa	Tree	1	Planted by staff, students
11	Saptaparni	Tree	3	Planted by staff, students
12	Grevilla Robusta (Silver Oak)	Tree	6	Planted by staff, students
13	Chipadi	Tree	1	Planted by staff, students
14	Bhokar	Tree	3	Planted by staff, students
15	Subhabal	Tree	4	Planted by staff, students
16	Bor	Tree	1	Planted by staff, students
17	Peru	Tree	1	Planted by staff, students

Table 5: Details of the Flora in the premises

At present there are 175 plantations comprising of plants, trees, shrubs. All of these are planted on various occasions while some have grown naturally. Timely maintenance with sufficient care has resulted in positive benefits for the surroundings.

5.2.2 Fauna Audit

It is a beautiful site to have the birds chirping around the College premises. It highlights the ecological co-existence concept in the most beautiful way. The surveyed data of the fauna shows that there are Butterflies, Moths, *Culex* Mosquito, *Anopheline* Mosquito, Ants, Spiders, *Myna*, Sparrow, Squirrel, Lizard are available in the premises

5.3 Noise Audit

5.3.1 Macro level

On a macro level there are open grounds in the site. The approach road too has very minimal traffic. As the College is oriented amidst the residential areas with immense vegetation the noise levels do not affect the students and staff in their day to day functioning. The approach road too is pretty away. **Overall the noise level in terms of bad effect is extremely low and there are positive outcomes as per our analysis on macro level.**

5.3.2 Micro level

The College has an adequate open space covered with huge trees prevailing naturally in the premises which act as a noise barrier; in addition the Institution building is surrounded by Residential Buildings which further act as a benefit in reducing any noise pollution. There are parking provisions provided in the premises which causes minimum noise as they are situated near the entrance which is a bit away from the College building.

There are no particular equipments which cause any noise effect. **Overall the noise levels inside the premises are low which is a good approach.**

5.4 Carbon Footprint Audit

5.4.1 Eco-friendly Commuting Practices

Based on data collection and discussion with staff the following points were noted:

- **Ease of commuting** – Owing to close proximity to public transport the access is very feasible and walk able.
- **Parent's commute** - There are 2 Parent-teacher meetings held in a year and the turn-out is around 40-60%

- **Vehicles details** – The provision provided by College includes vehicle parking is allowed at present as follows.

S. No.	Type	Nos.	For (student/ Staff)
1.	Cars	2-3	Staff
2	Bikes	30-35	Staff and Students
3	Cycles	45-50	Students
4	Electric vehicles	0	Staff and Students

Table 6: Details of the Parking in the premises

- **Commute details** – The students and staff commute from multiple places. The details are summarised below.

S. No.	Name of the Places	Percentage of the Students
1	From Solapur City	80% Students come from urban minority areas
2	Villages form South Solapur, North Solapur, Akkalkot Taluka	20 % students come from these places

Table 7: Details of the places students and staff commute from

5.4.2 Heat Island Reduction

The Institution has **adopted the following practices which are yielding positive results** in terms of Urban Heat Island Effect which refers to increase in temperature of the surrounding because of ineffective strategies.

- **Exposed roof areas** – The terrace is a flat roof which is absolutely clean and well maintained. The Buildings are covered with white paint and the Maintenance staff along with Management have taken ample measures to maintain the same. **There was no weathering of roof observed. The current practices are well maintained.**
- **Exposed non-roof hardscape areas** - There are pathway on all sides of the premises. These include some natural and potted plantations along the pathways. **However, the trees are huge and the canopy is wide spread thus providing ample shade to the outdoor areas of the premises. Hence, there are no direct sunrays or similar effect affecting the students and staff. The College has an open space in the form of lush green carpet which acts as a solution for the urban heat island effect.**

This huge green space is a very good solution for reducing any harmful health consequences which may arise due to harsh sunlight.

There are adequate measures adopted in the premises to reduce heat island effect of Building roofs and in site.

5.4.3 Outdoor Light Pollution Study

The College compound lights are not upward looking thus, these do not cause light pollution.

5.5 Universal Campus

As per World Report on Disability, 2011 there are 180 million approx. Persons with Disabilities that makes it 15% of total population of India.

There are Ramps, Handrails along staircase and low height risers in the Staircases as part of universal campus initiatives. The design of the premises is appropriate for access with passages and corridors being wide enough in size and naturally ventilated. The doubly and singly loaded corridors are safe from fire safety aspect. The College has resting places (seating areas) in the outdoor along the trees thereby making it user friendly for the especially abled students. **The College can have plans to install lift in future depending on the situation and facilities like addition of universal toilet.**

5.6 Fire Safety

The Institution has undertaken adequate fire safety measures. Each floor has an open staircase without any barriers for fire safety measures. These staircases are free of any kind of storage or combustible material. The windows in each classroom are at a low height with fresh air and natural light thereby adding to ample ventilation throughout the day. **The College should adopt additional fire safety practices such as fire hydrant, sprinkler, fire alarm and other systems whenever the College undergoes further extension or renovation.**

5.7 Survey Results

An online survey was conducted to analyse the views about the premises, following are some of the reviews.

5.7.1 Participation

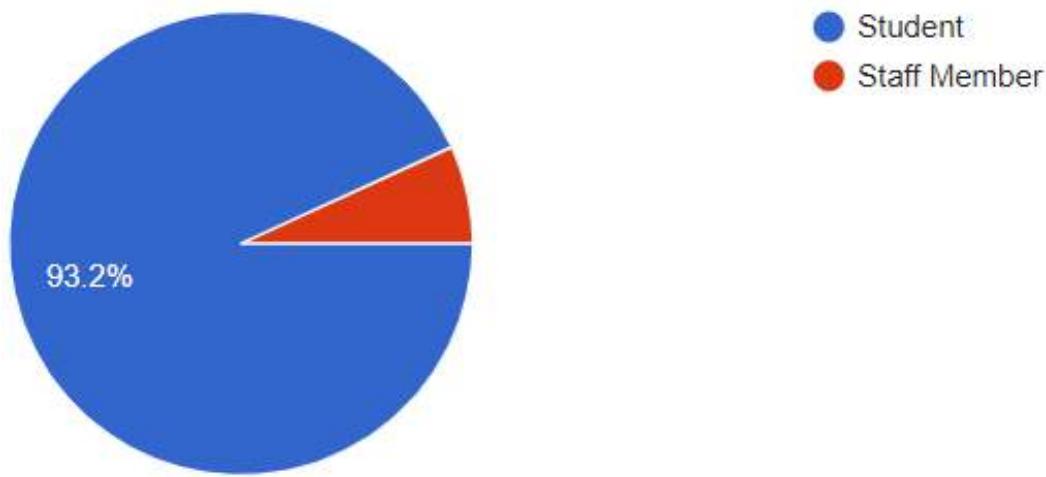


Figure 1: Participation analysis in the survey

A total of **117 responses** were received out of which 93% were students.

5.7.2 What according to you are the positive steps taken by the College towards Green Building/ Good maintenance?

We have listed some of the key responses below.

- Water purifier
- Clean premises

The majority of the responses stated these two points.

5.8 Positive site features as per our study

a) Avoid using plastic in premises

There are provisions for ban on the use of plastic bags or products in the Premises.

b) OPAC system

The system in the library is beneficial for the students.

c) Ample greenery

There are provisions for garden, plenty of open areas with traditional trees and greenhouse in the premises.

a) User friendly movability in premises

There are provisions for Kerb Ramp near the main entrance of the Building premises, also low height hand rail for ease of access.

5.9 Recommendations for a Sustainable Habitat by Greenvio Solutions

Site beautification

a) Additional facilities for birds

There can be provision for drinking water and food facility for birds visiting in the College premise.

b) Nutrition pits

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

Universally accessible premises

a) Universal Toilet

There should be minimum 1 toilet for the specially abled people as per guidelines prescribed by National Building Code 2016 with size being minimum or more than 1.5m x 1.5m.

b) Resting places

There should be increased provision for resting places on-premises outdoor and indoors.

Pollution Control

a) Promote the use of Eco-friendly vehicles

There can be provision for battery operated vehicles/ low emission vehicles such as electrically driven vehicles parking in open space along with battery charge points, this would inspire students to change mode of transportation and adopt sustainable practices.

b) Bicycles as a gift

As an appreciation gesture may be the students toppers/ staff best performers can be awarded with a bicycle occasionally.

c) Paperless technologies for offices

The college can go technology-friendly and go paperless in the functioning of the Premise to a certain extent maybe not fully.

d) Avoid paper wastage through books

The College can collect all old semester notebooks; these can either be converted to reusable paper on the premises through a workshop or using a shredder machine or handed over to a vendor for making fresh paper. Additionally, the Students can be motivated to undertake similar practices on an individual note.

Smart and responsible environment systems

Smart Gardening System

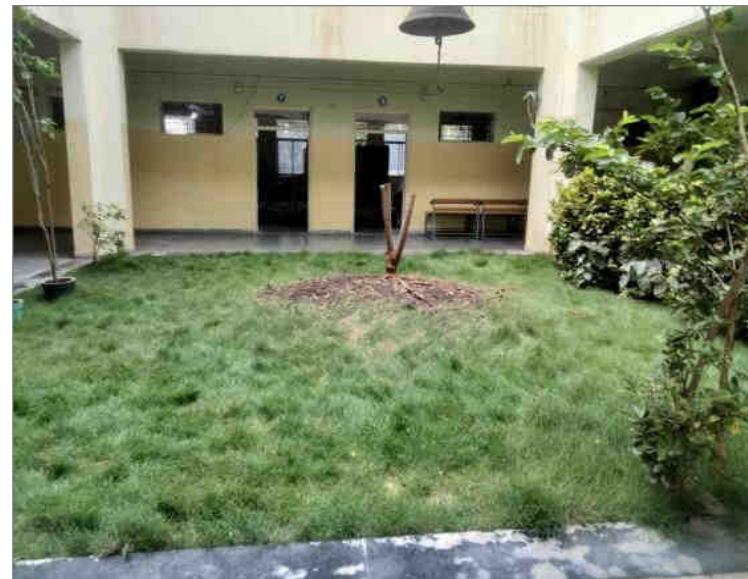
The College can undertake a Smart Gardening system using IoT Technology such as an automated watering system. This will result in saving time by scheduling time for watering; Saving money and water as smart irrigation systems have automated water schedules in addition to tracking dampness of soil which helps the irrigation system know when and how much the garden needs. It also helps in healthier plants as with the help of apps, smart irrigation systems, or even smart growing containers, these tasks can be provided evenly and allow the plants to be healthier and more productive. More information on this system can be checked here <https://www.happysprout.com/inspiration/what-is-smart-gardening/>

On-site investigation and physical verification

The ecologically friendly ambience with facilities such as open spaces, lifts and gardens



Shaded parking and nursery provisions



Plantations in the premises



Open spaces and ramp facility

6. Towards a Healthy & Sustainable Institution

6.1 Inputs by Greenvio Solutions

Based on the analysis of the study of premises in addition to the recommendations provided in each section of Ecological, Water, Waste and Energy Audit the College can adopt the following strategies towards a Healthy and Sustainable Institution practices.

- a) Cutlery in the Canteen** – The regular plastic and steel plates, spoons used in Canteen can be replaced with eco-friendly and organic leaves, paper straw, disposable plates, edible spoons and tables made out of sugarcane waste or bamboo. This will be first of its kind initiative to be adopted and practiced thus also inculcating the healthy practices in students.
- b) Additional fire safety** - Measures such as Hose reel, signages, fire-fighting tank, fire alarm and sprinkler system should be adopted.
- c) Signages** – In addition to the signages being in regular language there can be additional signages in braille language for the especially abled students.

6.2 Survey Results

An online survey was conducted to analyse the student and staff views about what changes according to you can be undertaken for Green audit improvement in College premise and activity.

Some of the suggestions by the Students and staff are listed below:

- Ozone park
- Advocate the College initiative to encourage students to respect environment and conserve it through plantations.
- Special campaigns for students
- Creating eco-friendly rules in the premises.

However, it should be noted that the College has taken up multiple initiatives and because of Pandemic the students have not practically visited the premises so many of these points are not mandatory at the moment.

7. References

1. Uniform Plumbing Code – India, 2008
2. IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
3. IGBC Green Landscape Rating system, March 2013
4. BOMA Canada Waste Auditing Guide, Best Environmental Standards, BOMA BEST – Canada
5. Used only for understanding Universal design - Universal accessibility Guidelines for Pedestrian, Non-motorized vehicle and Public Transport Infrastructure – Report guidelines by Samarthym (National centre for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation.
6. Climate data <https://en.climate-data.org/asia/india/maharashtra/solapur-2803/>



Green Audit Certificate

is awarded for **2020-21 and 2021-22 (Analysed for 2 years)** to the Esteemed Institution

Padmashali Shikshan Sanstha's

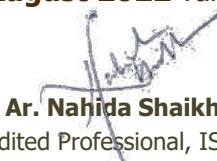
Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya

City Survey No. 9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005

(Site visit held on Friday, 26 August 2022)

As part of the Institution's initiatives for a Healthy & Sustainable College the audit was conducted.
We appreciate the immense efforts taken by Staff and students towards the Efficient Management of Premise.

Issued on Friday, 26 August 2022 valid till August 2023



Ar. Nahida Shaikh

Architect, IGBC Accredited Professional, ISO Certified I. A. (IMS)
Assocham GEM Certified Professional (Regn. No. 22/718)

Project Head and Green Building Professional-Consultant

Sustainable Academe

Sustainability Department of Greenvio Solutions, Naigaon

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GREEN AUDIT

STUDY PERIOD (TWO YEARS) 2020-2021 AND 2021-2022

Sustainability study **AUDIT REPORT**

Studied for

Padmashali Shikshan Sanstha's

**Anusayabai Ramchandra Burla
Mahila Varishtha Mahavidyalaya**

City Survey No. 9705/9/A/2A, Raviwar Peth,
Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005

Studied in the capacity of

An accredited & Certified Green Building Professional



Valid till August 2023

Disclaimer

The Audit Team has prepared this report for the **Padmashali Shikshan Sanstha's Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya** located at City Survey No. 9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005 based on input data submitted by the College analysed 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 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 College. 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 period of time 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 has completed audits of multiple Institutes including Technical, State University, Private University and Single Faculty Colleges for a total of more than 60 lakhs+ sq. ft. of Built-up area audited till date Pan India as an Accredited and Certified Green Building Professional-Architect; ISO Certified I.A. (IMS). 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 in capacity of Accredited & Certified Green Building Professional with extensive experience.

Greenvio Solutions

Developing Healthy and Sustainable Environments

We are an Environmental and Architectural Design Consultancy firm

Sustainable Academe is our department for conducting Audits

Palghar District, Maharashtra- 401208

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Acknowledgement

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Our special thanks are due to **Shri. Kashinath Parshuram Gaddam**, Chairman; **Shri. Shriniwas Vyankatpati Kondi**, Vice-Chairman; **Shri. Dashrath Narayan Gop**, Secretary; **Sou. Sangita Yashawant Indapure**, Joint Secretary; **Shri. Naganath Irayya Ganji**, Treasurer and everyone from the Management.

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We highly appreciate the assistance of **Mr. Gajul Venkatesh Mallesham**, Office Superintendent; **Mrs. Sadul Sanjeevani Nareshkumar**, Head Clerk; **Mr. Saggam Anil Rajaram**, Jr. Clerk; **Mr. Gajeli Satyanarayan Mallayya**, Jr. Clerk; **Mr. Ghagare Mahesh Revansiddh**, Library Attendant; **Mr. Maltumkar Santhosh Dhondiram**, Library Attendant; **Mrs. Kudkyal Uma Ambadas**, Helping staff; **Mr. Mhaisur Ramakant Vitthal**, Helping staff and 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

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1. Introduction

1.1 About the Padmashali Shikshan Sanstha

It was established on 9th November, 1912 by the patrons of Padmashali community. It is one of the largest and leading institutions in Solapur which constitutes 16 Schools and 04 Junior Colleges, 01 Night College (Junior) and 01 Senior College. It caters the needs of 15 thousand students every year thorough twenty two branches.

The students are basically from migrated families, minorities and on the whole from downtrodden societies. The institution successfully celebrated its Centenary in 2012. Patrons of this community, by their selfless service and dedication towards education, carved the future of many students in hundred years by establishing schools and colleges under Padmashali Shikshan Sanstha.

1.2 Statements of the Institution

Vision - To impart education to women which aims at Quality Education, Academic Excellence, Social Concern and Character Formation.

Mission - Empowerment of Women through Quality Education.

1.3 About the Institution

Seth Ramchandra Ramayya Burla was a successful textile businessman and manufacturer in Solapur. He pulled out all the stops to start senior College for the students hailed from Padmashali minority community. He is the donor of the many branches including Anusayabai Ramchandra Burla Mahila Mhavidyalaya.

He was aware of social commitment and closely associated with the important events of the institution as a well-wisher of Padmashali Education Institution. He donated his homes to start two schools and a college. Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya was inaugurated by former trustee and general secretary of the institute, Gangdharpant Kuchan.

The College imparts skill and career oriented education thorough short term and certificate courses. A large number of students are benefited by support services and inter - disciplinary activities provided by the college. The College also offers access to distance

mode of learning through the center of Yashwantrao Chavan Maharashtra Open University. The College has sound infrastructure, highly qualified and experienced teaching staff, number of support services and established tradition to provide quality education to the needy masses deprived of education.

The Motto of the College "To impart education to women which aims at Quality Education, Academic Excellence, Social Concern and Character Formation." **The Aim (Goals) of the College is as follows:**

1. To academically equip the minority students through the medium of higher education.
2. To inculcate basic human values and professional ethics.
3. To motivate students for innovation and creativity.
4. To nurture employability skills among the students.
5. To inculcate spirit of enquiry, scientific temper and research culture.
6. To foster students for academic integrity.
7. To encourage students for quest for excellence.
8. To promote students to use technology.

The Institution offers the following courses.

- **Bachelor of Arts (B.A.)**
- **Bachelor of Computer Applications (B.C.A.)**
- **Bachelor of Commerce (B.Com)**
- **Certificate Courses**
 - ⇒ Fashion designing
 - ⇒ Beauty parlour
 - ⇒ Small scale industries
 - ⇒ Value education and ethics
 - ⇒ Tourism
 - ⇒ Nursery development
 - ⇒ Tally with GST

- **Value Added Course**

⇒ Research Methodology

⇒ Professional ethics

The College works towards training young men and women to be competent, committed and compassionate, and lead in all walks of life. **It has the objective** "*To Empower women through quality education.*"

1.4 The surrounding premises around the Institution

The Premises is situated amidst the landscape serene of **Solapur district of Maharashtra** with immense peace and calmness in the surroundings. There is a frontal approach which provides quite a beautiful appreciation space while approaching the premises; this area is surrounded by huge trees which positively complement the background-foreground aspect in terms of Natural space and built-form Architecture. It also provides ample shade which enhances the micro climate of the region. The location of College is feasible to the nearby essential amenities such as Public Health Center, Fire Station, Civic body-Public administrative buildings, Recreational gardens and Police Station which are not too close but nearby.

1.5 Assessment of the College

1.5.1 Affiliations

The College has all its courses approved and affiliated to **the Punyashlok Ahilyadevi Holkar Solapur University, Solapur, Maharashtra state.**

1.5.2 Certification

- **AISHE** – The code is *C-15690*.
- **NIRF** – The College has been *participating in the NIRF rankings every year.*
- **ISO** – The College is *ISO 9001:2015 Certified.*

1.5.3 Accreditation

NAAC - The following are details of the reaccreditation of the College.

Cycle	First	Second	Third
CGPA	-	2.62	2.76
Grade	B+	B	B++
Year	2004	2012	2017

Table 1: NAAC Accreditation details of the Institute

The College is due to enter its Fourth cycle of NAAC.

1.5.4 Recognitions

The College has achieved the following recognition from **University Grant Commission (UGC) under section 2 (f) and 12 (b) of the UGC Act by University Grants Commission, New Delhi.**

2. Institution overview

2.1 Populace analysis for Academic year 2021-2022

2.1.1 Students data

The student data (shared by the College) shows there were a total of **1,167 Girls students** in the premises.

2.1.2 Staff data

Type	Male	Female	Total
Admin Staff	04	01	05
Teaching Staff	09	06	15
Non-Teaching Staff	03	01	04
Total Staff Members	16	08	24

Table 2: Staff data of the Institution for 2021-2022

The staff data shows the premises had a total of **24** Staff Members.

2.2 Populace analysis for Academic year 2020-2021

2.2.1 Students data

The student data (shared by the College) shows there were a total of **1,170 Girls students** in the premises.

2.2.2 Staff data

Type	Male	Female	Total
Admin Staff	04	01	05
Teaching Staff	10	06	16
Non-Teaching Staff	03	01	04
Total Staff Members	17	08	25

Table 3: Staff data of the Institution for 2020-21

The staff data shows the premises had a total of **25** Staff Members.

2.3 Total College Area & College Building Spread Area

The **total site area is 1.10 Acres** and the **total Built-up area of College is 30,623 sq. ft. for a total of 1,191 footfalls.**

2.4 College Infrastructure

2.4.1 Establishment

The College was established in 1990. The College is located pretty close to nature and hence has very fresh environment which is absolutely pollution free and healthy. The Building is a Reinforced Cement Concrete (RCC) framework building. **Overall the Infrastructure of the Building is excellent in terms of the Architecture Design and Green Building Design. The Premises covers quite a few of the requirements for a Green Habitat.**

2.4.2 Spatial Organisation

The overall ambience of the College is warm and inviting. The classrooms and other spaces have ample natural ventilation in the form of clear glass windows with fresh air ventilation. The architecture of the building is quite well designed. The colour palette not just helps the building to stand out but also provides an Institutional arena. It balances with the local architecture with the natural landscapes of huge trees all around. The design emphasis on providing calmness to the built form and gradually merges with the serene landscape.

The floor to floor height is more than 10 feet. There is no provision for lifts in the premises, whereas there are amenities such as CCTV, Fire extinguishers, Library and first aid box.

2.4.3 Operation and maintenance of the premises

The interview session with the staff regarding the operation and working hours is summarized in the table. The Institution is open from Monday to Saturday. The detail wise timing for each is mentioned below.

S. No.	Section	Days	Time	Hours/ day	Days in a year
1	All Lectures	Monday to Saturday Except Holidays	7.30 am to 12.30 pm	5	280
2	Library Hours	Monday to Saturday Except Holidays	8 am to 5 pm	9	300
3	Administration	Monday to Saturday Except Holidays	10 am to 5 pm	7	300

Table 4: Schedule of the timings of the premises

3. Green Building Study Audit

3.1 About the Green Building Study Audit

It is a systematic study of the aspects which make the Institution a sustainable and healthy premises for its inhabitants.

3.2 Analysis for the Green Building Study Audit

The procedure included detailed verification for the following:

Energy Audit

- Analysis of the Lights, Fans, AC, Equipment
- Renewable energy
- Scope for reducing the current energy bills if any
- Improvement in the thermal comfort of the campus

Green Audit

- Green initiatives
- Hygiene audit
- Water Audit - Analysis of the current water consumption of campus; Scope to include Rain water harvesting and Waste water treatment in premises
- Waste Audit - Current waste produced, its segregation and usage; Strategies to be adopted for waste management and awareness

Environmental Audit

- Analysis of the current landscape + hardscape of campus
- Analysis of the flora and fauna of campus
- Strategies adopted at present to enhance vegetation
- Measures that can be adopted for ecological improvement of the premises.

3.3 Strategy adopted for Green Building Study Audit

The strategies included data collection from admin department, actual inventory, investigation to check the operation and maintenance, analysis of the data collected and preparation of the Report.

3.4 Timeline of the activities for Green Building Study Audit

- | | |
|------------------|---|
| • 10 March 2022 | – Allotment and Initiation by the College |
| • 12 March 2022 | – Induction Meeting |
| • 19 August 2022 | – Data submitted by College |
| • 23 August 2022 | – Survey of the Student and staff submitted |
| • 26 August 2022 | – Site visit at the premises |
| • 26 August 2022 | – Submission of the report |

On-site investigation and physical verification
Audit Team during the visit on 26 August 2022



Discussion at the rainwater harvesting and proposed garden area



On-site review with the Team



On-site discussion with the Team

Green practices



Background reference image Free photos on pixabay

4. Green Practices Audit

The increasing global warming and climate change have made us realise that apart from the enormous strategies the individual small efforts need to be taken by individuals and Educational Institutes as the younger generations are the future of the world and once they are taught about these practices only then can we assume a better future.

4.1 Green practices

We observed the following points during the Site investigation and data verification of the premises; these are common for all the Buildings in the premises.

- There is **availability of open space in the premise in addition to the provision of the multiple varieties of flora.**
- The NSS, College authorities **jointly conduct initiatives for upgrading of the premises from environmental view.**
- Fresh environment is maintained and upgraded by the presence plants. **This vegetation benefits the users by providing shade.**
- **Lectures/workshops conducted on green practices and green infrastructure.**

4.2 Community Development

The various community development programs conducted include Tree Plantation, Life Learning, Employability Skill program introduced for the youth, Blood Donation Camp, Food Kit Distribution Program to the neighbourhood community, Relief fund programs.

A lot of efforts are involved right from planning to execution. The main motive behind these is social welfare. This kind of a though process is highly admirable. We respect and congratulate the Institute for the same.

4.3 Eco-friendly initiatives undertaken

The Institution has undertaken the following initiatives through **excellent efforts** towards save environment measures.

4.3.1 Physical events

S. No.	Name of the event	Date
1	Tree Plantation at Doddi Village	20 March, 2020
2	Ozone Park	14 February, 2021
3	Cleanliness Campaign	27 April, 2022
4	Basic Information of Birds	15 May, 2022

Table 5: Details of the Physical events

4.3.2 Virtual events

The College undertakes webinars and virtual programs on specific occasion, one such occasion was the '**Naturopathy and Immunity Boosting in COVID-19 Pandemic**' on 12 June 2021.

4.4 Survey Results

An online survey was conducted to analyse the student and staff views about the Energy management practices adopted in College, following is the result received.

4.4.1 Participation

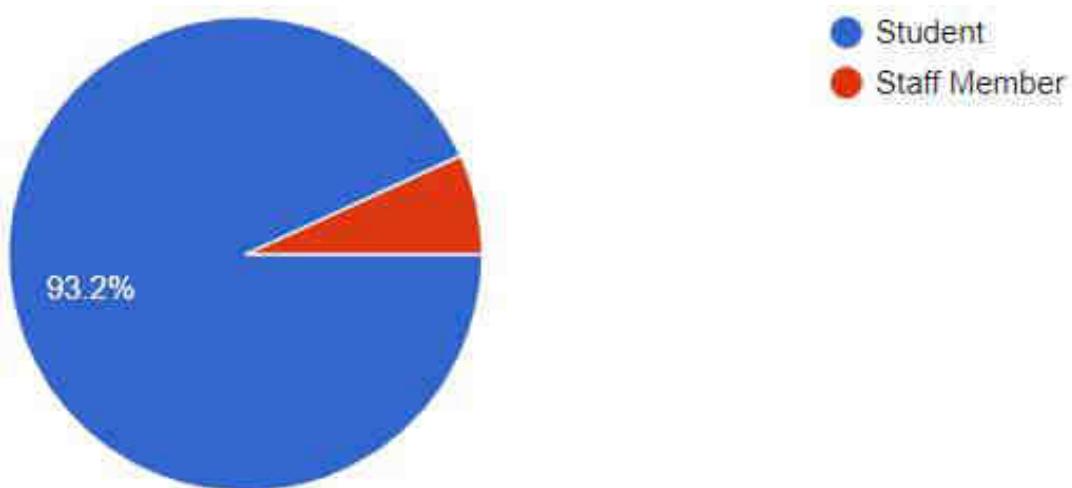


Figure 1: Participation analysis in the survey

A total of **117 responses** were received out of which 93% were students.

Note about the review-rating survey

The Participants were asked to review (Through an online mode) the practice on a scale of 1-5 with scale components as follows:

- Scale 1 – Poor
- Scale 2 – Satisfactory
- Scale 3 – Good
- Scale 4 – Very good
- Scale 5 – Excellent

The figures in each of the columns of graph depict the Number of participants responses in numerical (Percentage of the participant response) – For example 101 responses (44.5%)

4.4.2 Rate the Green awareness practices in College

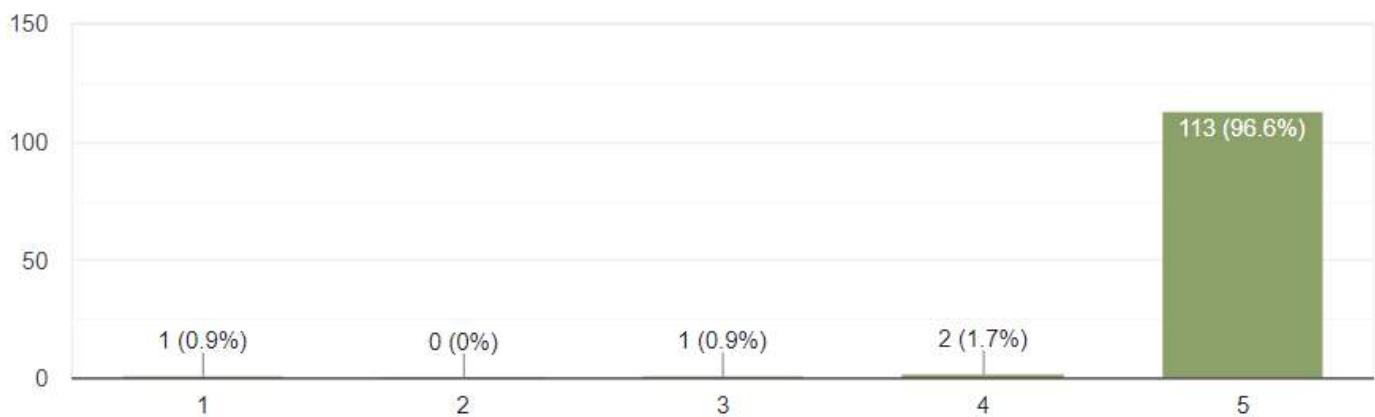


Figure 2: Green awareness practices in College

There were mixed responses received the highest was for **rating 5 (Excellent) at 97%** followed by **2% for rating 4 (Very good)**.

4.4.3 Does your College conduct environment awareness programs/ webinars/ plantations/ cleanliness or similar programs?

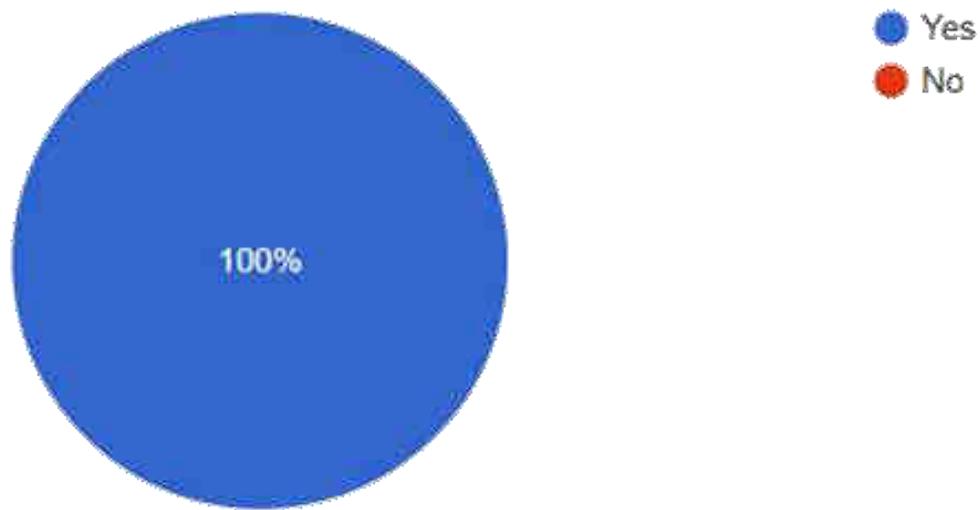


Figure 3: Confirmation of the environment awareness programs/ webinars/ plantations/ cleanliness or similar programs conducted by the College

The students, staff **100%** of responses confirmed activities are conducted which is very excellent.

4.4.4 Do you participate in such events?

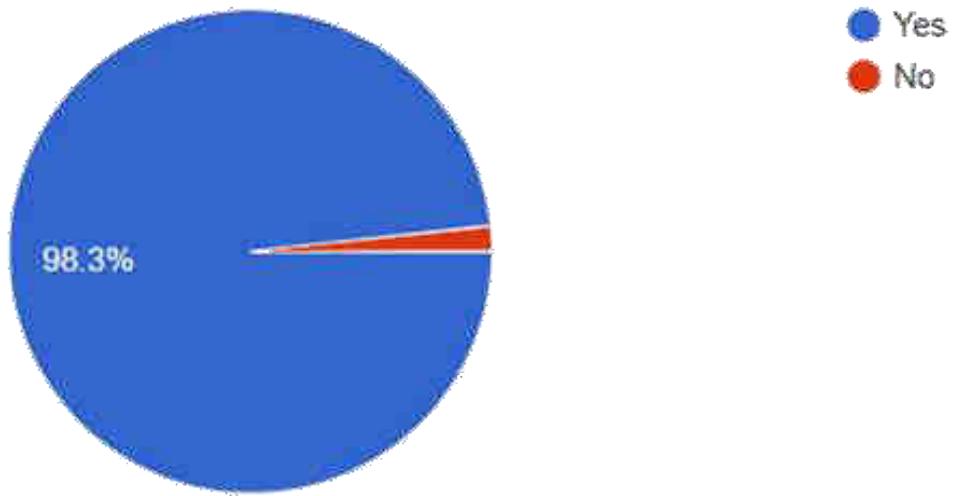


Figure 4: Participation in the environment awareness programs/ webinars/ plantations/ cleanliness or similar programs conducted by the College

The students, staff **almost 98%** of the responses confirmed their participation, **this is excellent and the college should continue its efforts.**

4.4.5 If yes, what has been your experience about the program?

We have listed some of the key responses below.

- Excellent
- outstanding
- Good
- That event has given good experience to us.

4.5 Recommendations for a Sustainable Habitat by Greenvio Solutions

a) Increase the plantations on the premise

There can be provision for more plantations on the premise maybe even a Kitchen garden facility.

b) Plant as a gift

As a kind gesture, the guests visiting the premise can be asked to plant a small plant on the premise itself and they can be even given plants/bouquets from the flowers of the plants on the premise as a gift.

c) Environmental awareness

There can be various artworks on the compound wall giving the message of saving the environment through the joint efforts of the students and staff thereby making the student socially and environmentally responsible citizens.

d) Tree adoption scheme

The college can adopt the One Faculty – One tree adoption scheme which is one of its kind practice, this can be very beneficial, especially during the summer season.

e) No vehicle day

Once in a while, a No vehicle day can be adopted by students and staff to promote the use of eco-friendly vehicles on the premise.

f) Signages on the plants mentioning scientific names

The practice of having the names of each plant and tree will provide awareness among the staff and students.

Waste Audit

Background reference image Polina Tankilevitch on pixels

5. Waste Audit

Waste is an inevitable part of our lives. Over the years as the awareness about waste management techniques has given a rise to rethink how the waste can be avoided from being sent to the landfills. The audit provides an approximation of the types of waste generated, location of waste collections, disposal techniques used, waste segregation methodologies adopted, waste management strategies that are and implemented in addition to the newer ways that can be adopted aiming to make the premise clean and sustainable. Here sustainable refers to a broader aspect to analyse whether the current techniques are having positive or negative effect on the stakeholders of the premises.

5.1 Waste produced

5.1.1 Types and disposal of waste in Premises

The types of waste collected in the premises are as follows, these are separated before processing.

S. No.	Type of waste	Source and quantity	Current Disposal method	Can be treated/ recycled?	Methodology
1	Solid waste	Toilets–Biodegradable waste of 15-20 kg per week	Led in the storm water drains	Yes	TREATED - Small biogas plant can be proposed in open space
2	Paper waste	Newspaper and other paper	Sold to vendor	Yes	CONTINUE - with the current practice
3	E-waste	Computers - Non-biodegradable waste as per the annual year usage	Given to vendor	Yes	CONTINUE - with the current practice
4	Dry waste in form of leaves	Open space & plantations, papers - Non biodegradable waste of 8-10 kg per week	Dumped/ Municipal Corporation	Yes	TREATED – Organic composting can be undertaken
5	Liquid waste	Toilets, washbasins – Around 100 – 120 litres per week during general times and 50 litres at present	Led to the storm water drain and garden	Yes	TREATED - Waste water treatment plant as well as continue with current practice of reuse in garden
6	Organic regular waste	Dust, dirt usually dry waste from Canteen and all sources – approx. 3 to 5 kg	Dumped/ Municipal Corporation	Yes	TREATED – Organic composting can be undertaken

Table 6: Summary of the types of waste produced in the premises

5.1.2 Bins summary

There are 10 Dustbins in the premises with volume of 7 litres (small), 15 litres (medium) and more than 30 litres (large). The analysis of dustbins is presented below.

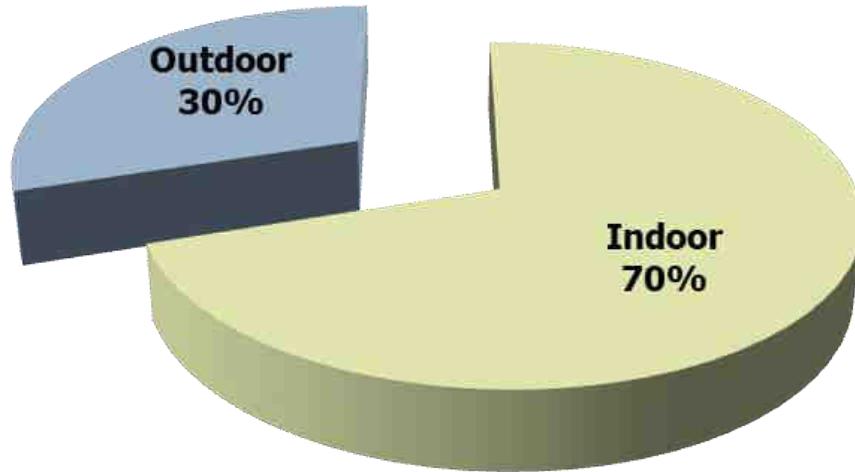


Figure 5: Analysis of dustbins location wise in the premises

The above analysis shows **70% are present in the indoors & 30% in the outdoors.**

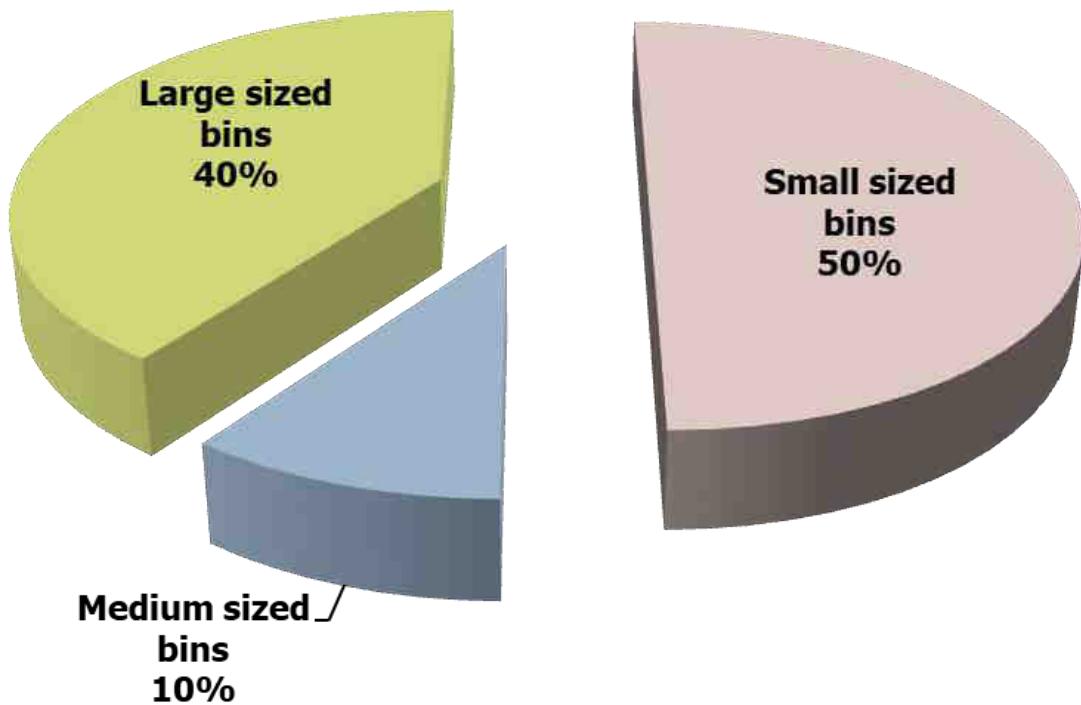


Figure 6: Analysis of dustbins size wise in the premises

Among the dustbins that are present in the premises, **50% are small sized bins; 10% are medium sized dustbins and 40% are large sized dustbins.**

5.2 Waste handling

Quantification wise as per Interview and survey it was found the following type of waste is Solid, Liquid, Hazardous Waste, Dry leaves, E-Waste, Canteen waste, Unused Equipment waste is collected. The waste produced on premises is segregated. It is collected on a weekly basis. The waste is not handed over to the local municipality van. There is a dumping pit in the garden which should not be there.

5.3 Waste management

The College reuses the papers. Ample measures are taken to maintain hygiene. No smell problem or health related issues due to the waste are there. There are adequate numbers of bins present in all parts of building. The waste does not pollute the ground or surface water. There is no problem of air pollution from waste as informed. The wastes from toilets are discharged to main drains through underground covered channels (Safety Tanks) thus avoiding any incident.

5.4 Survey Results

Note about the review-rating survey

The Participants were asked to review (Though an online mode) the practice on a scale of 1-5 with scale components as follows:

- Scale 1 – Poor
- Scale 2 – Satisfactory
- Scale 3 – Good
- Scale 4 – Very good
- Scale 5 – Excellent

The figures in each of the columns of graph depict the Number of participants responses in numerical (Percentage of the participant response) – For example 101 responses (44.5%)

Rating for the views regarding the Waste management practices adopted in College, following is the result received.

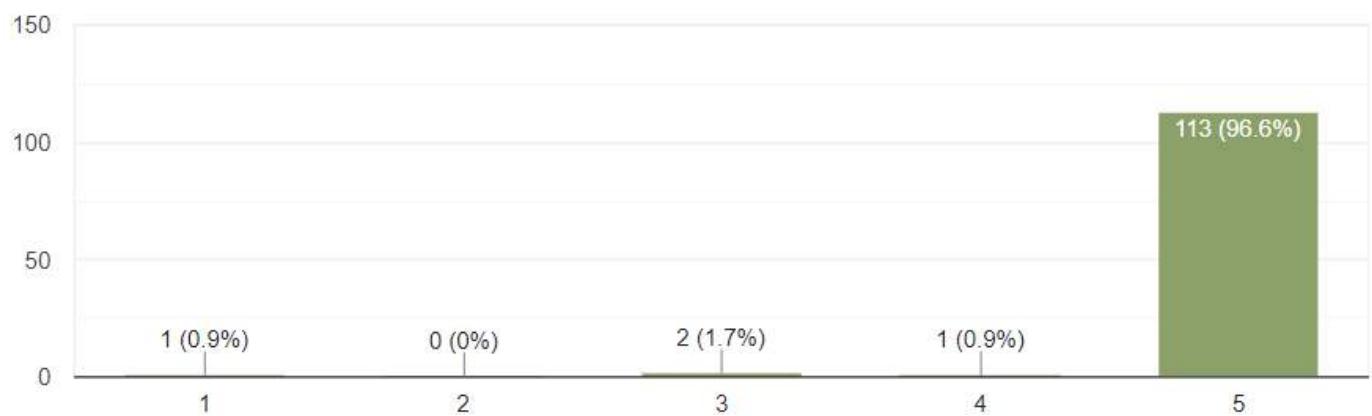


Figure 7: Waste management practices in College

There were mixed responses received the highest was for **rating 5 (Excellent) at 97%** followed by **1% for rating 4 (Very Good)**.

5.5 Recommendations for a Sustainable Habitat

The following practice can be adopted for further up gradation.

a) Zero Waste practice adoption

The College can undertake a zero organic waste protocol. The following practices can be adopted as part of the same.

- The food waste generated by the students and staffs are taken by them to their own home, so that, minimum waste is generated inside the premises.
- The organic waste generated in the canteen is used as feed for a biogas plant and the biogas is used as fuel in College canteen.
- Vegetable waste and other leaf litters can be used to feed in the vermi-compost pit and the resulting vermin-cast is used as manure in the garden.
- The chemicals from the laboratories be disposed in a sealed tank along with water, so that the chemicals undergo neutralization with the water.

As part of the above there will be a requirement for a Biogas plant, vermin-compost pit, awareness signages, sealed tank for waste water from chemical laboratory.

b) Twin Dual Litter Dustbin Bins

There should be more number of dual litter dustbins at various locations in areas such as Canteen, open spaces. This would inculcate the awareness of waste segregation among students.

c) Signages

Message about avoiding wastage should be placed at appropriate locations.

d) Dustbins at every 100m

There should be a dustbin at every 50-100 in the open spaces

e) Material of the dustbin

The current plastic dustbins should be replaced with eco-friendly material.

Water Audit



Background reference image Vlad Chetan on pixels

6. Water Audit

Water is one of the basic needs. Pure drinking water is a resource which needs to be preserved efficiently. Water audit helps to identify the sources of water consumption, the water requirement by the campus met by these sources. The points and effective usage of without any wastage. Understanding the techniques which are best suited to the site to increase water conservation in terms of awareness and practice.

6.1 Water availability and consumption

6.1.1 Sources of Primary water supply

The main source of water is through Municipality. The College requires water from the Local Municipality for drinking purpose. The total water consumption through the tanks on site, these are available in a quantity of 3 tanks at multiple locations. The capacity of each is as follows:

S. No.	Type	Nos.	Capacity in litres
1	Ground floor	1	1,000
2	On the roof	2	1,500 litres (1,000 litre + 500 litre tank)
Total		3	2,500

Table 7: Tanks and well in the premise

6.1.2 Sources of Secondary water supply

Bore well and wells – There are 2 Bore wells available on the site which are used as underground water facility with daily water being pumped for using submersible pumps. On a daily basis water is pumped from per well for usage depending on the need.

6.2 Water requirement

The main areas of water requirement and type of usage is as follows

- **Drinking water** – Consumption of around 850-950 litres of water through Aquaguard like system available in the premise, the taps and water cooler.
- **Toilet blocks**– General usage by occupants in toilets, urinals, bathrooms, wash basins using approx. 400-600 litres of water daily

- **Cleaning of the premises** – The entire Institution is very well maintained with respect to hygiene and cleaning is one of the major uses of water requirement. The toilet areas are cleaned twice on a daily basis.
- **Garden and surrounding open space** – Cleaning, watering the plants requires approximately more than good amount of water, keeping in mind the scale of the open spaces there is supply system connected directly and the plants, trees are hardly watered regularly. The regular tap and a pipe system is practiced at present.

6.3 Areas of water usage

Based on the inventory done and data shared by the staff it was found that the premise has the following facilities:

- Urinals – 8 Nos.
- Toilets – 14 Nos.
- Wash basins – 24 Nos.
- Taps (Indoors) – 24 Nos.
- Taps (Outdoors) – 24 Nos.

As per the data shared by the College and on site observation, it was noted that there is no water wastage of water in the form of Cleanliness of toilets.

6.4 Site investigation about water management.

The College has an excellent management system which is very appreciable. We have observed the following points.

- There is **no water leakage in the entire premise**; the pipes are well maintained with adequate hygiene.
- **The premise has an efficient water management in terms of operations and maintenance.** The toilets are kept very tidy and are cleaned every day.
- **The waste water does not mix with ground water and gets directed to storm water drains.** There are sufficient number of taps in the premise.

6.5 Survey Results

Note about the review-rating survey

The Participants were asked to review (Through an online mode) the practice on a scale of 1-5 with scale components as follows:

- Scale 1 – Poor
- Scale 2 – Satisfactory
- Scale 3 – Good
- Scale 4 – Very good
- Scale 5 – Excellent

The figures in each of the columns of graph depict the Number of participants responses in numerical (Percentage of the participant response) – For example 101 responses (44.5%)

Rating for the views regarding the Water management practices adopted in College, following is the result received.

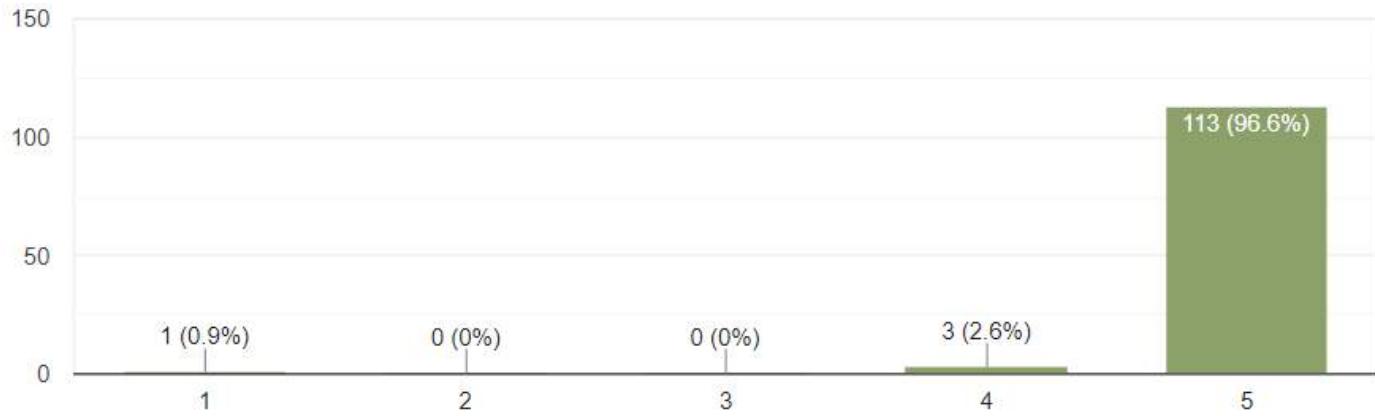


Figure 8: Water management practices in College

There were mixed responses received the highest was for **rating 5 (Excellent) at 97%** followed by **3% for rating 4 (Very Good)**.

6.6 Recommendations for a Sustainable Habitat

Below mentioned are few suggestions for better water management practices in the premise.

a) Waste water from toilets

This should be collected and a waste water treatment plant can be installed in the open space wherein this water can be treated and reused for gardening and toilet flushing.

b) Signages

Message about avoiding water wastage should be placed at appropriate locations.

c) Waterless urinals

There can be provision of waterless urinals as a Green Building initiative in the premise, either the existing ones can be replaced with such a facility or new toilets can be constructed in this manner.

Health & Hygiene Audit



Background reference image Curology on unsplash

7. Health and Hygiene Audit

The hygiene is a part and parcel of our daily life. It is extremely essential to keep the surroundings clean in the same manner as we would want our houses to be. Educational Institutes have a bigger role to play in order to affect the young minds in the positive manner through better hygienic practices.

7.1 Facilities available

The Institution has the following facilities as part of the premise.

- Washroom facility in each of the Building.
- Hand wash facility
- Drinking water facility in the form of Water coolers and taps
- Ample number of dustbins in the premise

7.2 Smoke Exposure

As per the Site visit the following analysis **has a positive impact on premises.**

- The College has No Smoking on its compound wall as part of the awareness.
- Canteen uses Gas cylinders for cooking, there is no utilisation of fire wood. Thus **there is no smoke from burning of fire wood and any health issues related to the same.**
- The **garbage in premise is not burnt** and there is not air pollution because of it.
- The Institution is a tobacco and smoke free campus which helps in adapting to a Healthy Institution
- There is parking provision inside the campus there is slight issue of dust owing to the same but it is **balanced with the good vegetation in the premise.**

7.3 Hygiene

As per the Site visit the following analysis **has a positive impact on premises.**

- For overall hygiene of the students and staff there are facilities such as Washroom facility on ground floor, hand wash. The hygiene of toilet areas is well

maintained. **The entire premises is cleaned twice on a daily basis. It is very appreciating that there are only few Maintenance staff who strive their best to take care of the entire premise in the most excellent way possible.**

- The staffs keep a regular check about the operation and maintenance of the equipments each floor.
- Water management initiative with appropriate hygiene is undertaken. The areas of water tanks in site on ground floor are clean and no mosquito breeding spots are there.
- There are pest controls program practiced with appropriate sanitation facilities and Annual Maintenance Contract for pest control is done once a year by professional Pest control units
- The food premises and equipments are cleaned as per schedule with special care taken to avoid any water stagnation. The food waste and other refuse are removed periodically from food handling areas to avoid accumulation.
- As part of Tree Plantation programme the initiative of **Swachh Bharat Abhiyan of Govt. of India** is undertaken during various occasions.
- There are appropriate storage areas which are well maintained.

7.4 On-site investigation

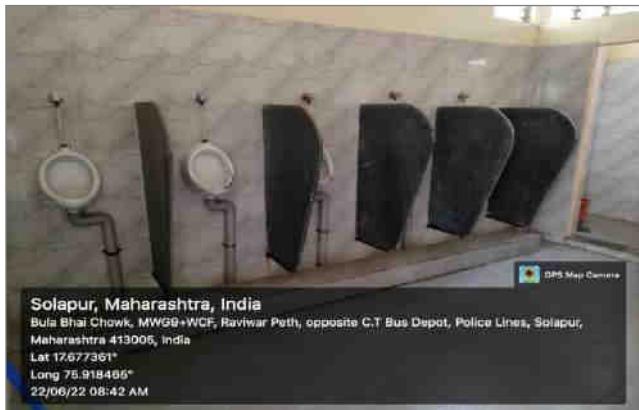
During the physical verification of the site, the following points were noted.

- All the facilities are cleaned on a daily basis.
- The Maintenance staffs are allotted the responsibility of the washroom hygiene and they do a very commendable and excellent job to maintain hygiene of the premise.

7.5 Recommendations for a sustainable habitat

As per site verification for this audit the efforts of the College are highly appreciable as they are very well maintained. However, the college should practice pest control programs with appropriate sanitation facilities through an appropriate agency and install Sanitary vending machines and incinerators at appropriate locations.

On-site investigation and physical verification
Facilities related to water and cleanliness, hygiene practices in the premises



8. Towards a Healthy & Sustainable Institution

8.1 Inputs by Greenvio Solutions

Based on the analysis of the study of premises in addition to the recommendations provided in each section of Ecological, Water, Waste and Energy Audit the College can adopt the following strategies towards a Healthy and Sustainable Institution practices.

- a) Cutlery in the Canteen** – The regular plastic and steel plates, spoons used in Canteen can be replaced with eco-friendly and organic leaves, paper straw, disposable plates, edible spoons and tables made out of sugarcane waste or bamboo. This will be first of its kind initiative to be adopted and practiced thus also inculcating the healthy practices in students.
- b) Additional fire safety** - Measures such as Hose reel, signages, fire-fighting tank, fire alarm and sprinkler system should be adopted.
- c) Signages** – In addition to the signages being in regular language there can be additional signages in braille language for the especially abled students.

8.2 Survey Results

An online survey was conducted to analyse the student and staff views about what changes according to you can be undertaken for Green audit improvement in College premise and activity.

Some of the suggestions by the Students and staff are listed below:

- Ozone park
- Advocate the College initiative to encourage students to respect environment and conserve it through plantations.
- Special campaigns for students
- Creating eco-friendly rules in the premises.

However, it should be noted that the College has taken up multiple initiatives and because of Pandemic the students have not practically visited the premises so many of these points are not mandatory at the moment.

9. References

1. Uniform Plumbing Code – India, 2008
2. IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
3. IGBC Green Landscape Rating system, March 2013
4. BOMA Canada Waste Auditing Guide, Best Environmental Standards, BOMA BEST – Canada
5. Used only for understanding Universal design - Universal accessibility Guidelines for Pedestrian, Non-motorized vehicle and Public Transport Infrastructure – Report guidelines by Samarthym (National centre for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation.
6. Climate data <https://en.climate-data.org/asia/india/maharashtra/solapur-2803/>



ENERGY AUDIT

STUDY PERIOD (TWO YEARS) 2020-2021 AND 2021-2022

AUDIT REPORT

Sustainability study

Studied for

Padmashali Shikshan Sanstha's

**Anusayabai Ramchandra Burla
Mahila Varishtha Mahavidyalaya**

City Survey No. 9705/9/A/2A, Raviwar Peth,
Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005

Studied in the capacity of

An accredited & Certified Green Building Professional



Valid till August 2023

Disclaimer

The Audit Team has prepared this report for the **Padmashali Shikshan Sanstha's Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya** located at City Survey No. 9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005 based on input data submitted by the College analysed 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 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 College. 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 period of time 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 has completed audits of multiple Institutes including Technical, State University, Private University and Single Faculty Colleges for a total of more than 60 lakhs+ sq. ft. of Built-up area audited till date Pan India as an Accredited and Certified Green Building Professional-Architect; ISO Certified I.A. (IMS). 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 in capacity of Accredited & Certified Green Building Professional with extensive experience.

Greenvio Solutions

Developing Healthy and Sustainable Environments

We are an Environmental and Architectural Design Consultancy firm

Sustainable Academe is our department for conducting Audits

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Acknowledgement

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1. Introduction

1.1 About the Padmashali Shikshan Sanstha

It was established on 9th November, 1912 by the patrons of Padmashali community. It is one of the largest and leading institutions in Solapur which constitutes 16 Schools and 04 Junior Colleges, 01 Night College (Junior) and 01 Senior College. It caters the needs of 15 thousand students every year thorough twenty two branches.

The students are basically from migrated families, minorities and on the whole from downtrodden societies. The institution successfully celebrated its Centenary in 2012. Patrons of this community, by their selfless service and dedication towards education, carved the future of many students in hundred years by establishing schools and colleges under Padmashali Shikshan Sanstha.

1.2 Statements of the Institution

Vision - To impart education to women which aims at Quality Education, Academic Excellence, Social Concern and Character Formation.

Mission - Empowerment of Women through Quality Education.

1.3 About the Institution

Seth Ramchandra Ramayya Burla was a successful textile businessman and manufacturer in Solapur. He pulled out all the stops to start senior college for the students hailed from Padmashali minority community. He is the donor of the many branches including Anusayabai Ramchandra Burla Mahila Mhavidyalaya.

He was aware of social commitment and closely associated with the important events of the institution as a well-wisher of Padmashali Education Institution. He donated his homes to start two schools and a college. Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya was inaugurated by former trustee and general secretary of the institute, Gangdharpant Kuchan.

The college imparts skill and career oriented education thorough short term and certificate courses. A large number of students are benefited by support services and inter - disciplinary activities provided by the college. The college also offers access to distance

mode of learning through the center of Yashwantrao Chavan Maharashtra Open University. The college has sound infrastructure, highly qualified and experienced teaching staff, number of support services and established tradition to provide quality education to the needy masses deprived of education.

The Motto of the College "To impart education to women which aims at Quality Education, Academic Excellence, Social Concern and Character Formation." **The Aim (Goals) of the College is as follows:**

1. To academically equip the minority students through the medium of higher education.
2. To inculcate basic human values and professional ethics.
3. To motivate students for innovation and creativity.
4. To nurture employability skills among the students.
5. To inculcate spirit of enquiry, scientific temper and research culture.
6. To foster students for academic integrity.
7. To encourage students for quest for excellence.
8. To promote students to use technology.

The Institution offers the following courses.

- **Bachelor of Arts (B.A.)**
- **Bachelor of Computer Applications (B.C.A.)**
- **Bachelor of Commerce (B.Com)**
- **Certificate Courses**
 - ⇒ Fashion designing
 - ⇒ Beauty parlour
 - ⇒ Small scale industries
 - ⇒ Value education and ethics
 - ⇒ Tourism
 - ⇒ Nursery development
 - ⇒ Tally with GST

- **Value Added Course**

⇒ Research Methodology

⇒ Professional ethics

The College works towards training young men and women to be competent, committed and compassionate, and lead in all walks of life. **It has the objective** "*To Empower women through quality education.*"

1.4 The surrounding premises around the Institution

The Premises is situated amidst the landscape serene of **Solapur district of Maharashtra** with immense peace and calmness in the surroundings. There is a frontal approach which provides quite a beautiful appreciation space while approaching the premises; this area is surrounded by huge trees which positively complement the background-foreground aspect in terms of Natural space and built-form Architecture. It also provides ample shade which enhances the micro climate of the region. The location of College is feasible to the nearby essential amenities such as Public Health Center, Fire Station, Civic body-Public administrative buildings, Recreational gardens and Police Station which are not too close but nearby.

1.5 Assessment of the College

1.5.1 Affiliations

The College has all its courses approved and affiliated to **the Punyashlok Ahilyadevi Holkar Solapur University, Solapur, Maharashtra state.**

1.5.2 Certification

- **AISHE** – The code is *C-15690*.
- **NIRF** – The College has been *participating in the NIRF rankings every year.*
- **ISO** – The College is *ISO 9001:2015 Certified.*

1.5.3 Accreditation

NAAC - The following are details of the reaccreditation of the College.

Cycle	First	Second	Third
CGPA	-	2.62	2.76
Grade	B+	B	B++
Year	2004	2012	2017

Table 1: NAAC Accreditation details of the Institute

The College is due to enter its Fourth cycle of NAAC.

1.5.4 Recognitions

The College has achieved the following recognition from **University Grant Commission (UGC) under section 2 (f) and 12 (b) of the UGC Act by University Grants Commission, New Delhi.**

2. Institution overview

2.1 Populace analysis for Academic year 2021-2022

2.1.1 Students data

The student data (shared by the College) shows there were a total of **1,167 Girls students** in the premises.

2.1.2 Staff data

Type	Male	Female	Total
Admin Staff	04	01	05
Teaching Staff	09	06	15
Non-Teaching Staff	03	01	04
Total Staff Members	16	08	24

Table 2: Staff data of the Institution for 2021-2022

The staff data shows the premises had a total of **24** Staff Members.

2.2 Populace analysis for Academic year 2020-2021

2.2.1 Students data

The student data (shared by the College) shows there were a total of **1,170 Girls students** in the premises.

2.2.2 Staff data

Type	Male	Female	Total
Admin Staff	04	01	05
Teaching Staff	10	06	16
Non-Teaching Staff	03	01	04
Total Staff Members	17	08	25

Table 3: Staff data of the Institution for 2020-21

The staff data shows the premises had a total of **25** Staff Members.

2.3 Total College Area & College Building Spread Area

The **total site area is 1.10 Acres** and the **total Built-up area of College is 30,623 sq. ft. for a total of 1,191 footfalls.**

2.4 College Infrastructure

2.4.1 Establishment

The College was established in 1990. The college is located pretty close to nature and hence has very fresh environment which is absolutely pollution free and healthy. The Building is a Reinforced Cement Concrete (RCC) framework building. **Overall the Infrastructure of the Building is excellent in terms of the Architecture Design and Green Building Design. The Premises covers quite a few of the requirements for a Green Habitat.**

2.4.2 Spatial Organisation

The overall ambience of the College is warm and inviting. The classrooms and other spaces have ample natural ventilation in the form of clear glass windows with fresh air ventilation. The architecture of the building is quite well designed. The colour palette not just helps the building to stand out but also provides an Institutional arena. It balances with the local architecture with the natural landscapes of huge trees all around. The design emphasis on providing calmness to the built form and gradually merges with the serene landscape.

The floor to floor height is more than 10 feet. There is no provision for lifts in the premises, whereas there are amenities such as CCTV, Fire extinguishers, Library and first aid box.

2.4.3 Operation and maintenance of the premises

The interview session with the staff regarding the operation and working hours is summarized in the table. The Institution is open from Monday to Saturday. The detail wise timing for each is mentioned below.

S. No.	Section	Days	Time	Hours/ day	Days in a year
1	All Lectures	Monday to Saturday Except Holidays	7.30 am to 12.30 pm	5	280
2	Library Hours	Monday to Saturday Except Holidays	8 am to 5 pm	9	300
3	Administration	Monday to Saturday Except Holidays	10 am to 5 pm	7	300

Table 4: Schedule of the timings of the premises

3. Green Building Study Audit

3.1 About the Green Building Study Audit

It is a systematic study of the aspects which make the Institution a sustainable and healthy premises for its inhabitants.

3.2 Analysis for the Green Building Study Audit

The procedure included detailed verification for the following:

Energy Audit

- Analysis of the Lights, Fans, AC, Equipment
- Renewable energy
- Scope for reducing the current energy bills if any
- Improvement in the thermal comfort of the campus

Green Audit

- Green initiatives
- Hygiene audit
- Water Audit - Analysis of the current water consumption of campus; Scope to include Rain water harvesting and Waste water treatment in premises
- Waste Audit - Current waste produced, its segregation and usage; Strategies to be adopted for waste management and awareness

Environmental Audit

- Analysis of the current landscape + hardscape of campus
- Analysis of the flora and fauna of campus
- Strategies adopted at present to enhance vegetation
- Measures that can be adopted for ecological improvement of the premises.

3.3 Strategy adopted for Green Building Study Audit

The strategies included data collection from admin department, actual inventory, investigation to check the operation and maintenance, analysis of the data collected and preparation of the Report.

3.4 Timeline of the activities for Green Building Study Audit

- | | |
|------------------|---|
| • 10 March 2022 | – Allotment and Initiation by the College |
| • 12 March 2022 | – Induction Meeting |
| • 19 August 2022 | – Data submitted by College |
| • 23 August 2022 | – Survey of the Student and staff submitted |
| • 26 August 2022 | – Site visit at the premises |
| • 26 August 2022 | – Submission of the report |

On-site investigation and physical verification
Audit Team during the visit on 26 August 2022



Discussion at the rainwater harvesting and proposed garden area



On-site review with the Team



On-site discussion with the Team

4. Energy Audit

4.1 Sources of Energy consumption

- ⇒ **Electrical (Metered)** – Light, Fans, Equipments, Pumps comprise the primary sources.
- ⇒ **Renewable energy** – There are solar street lights available in the premises

4.2 Site investigation analysis

The Site investigation observations and interviews with the Maintenance staff, Electrical department in charge are summarised below:

- The **switch-off drills are practised at present**, the maintenance staff and Lab Attendants put off switches of all equipments regularly.
- All the **computers are shut-off after use** and also put on power saving mode.
- There are **display boards encouraging staff and students to save energy are put up in the classrooms and laboratories**.
- There are **Ultra-violet lights used only in the scientific labs for experiment purpose, apart from these any other harmful lights used** in the premise.

4.3 Actual Electrical Consumption as per Bills

The admin department had shared the bills for Meter which is connected to all Buildings and is main source of energy supply. The supplier is Maharashtra State Electricity Distribution Company Limited. The analysis of actual electrical energy consumption is summarised below. The details of unit consumption meter wise is as follows.

No.	Year	Month	Units Consumed	Amount
1	June 20 to May 21	Jun-20	0	0
2		Jul-20	0	0
3		Aug-20	2274	25360
4		Sep-20	603	7610

5		Oct-20	566	6570
6		Nov-20	455	5390
7		Dec-20	433	5140
8		Jan-21	477	5660
9		Feb-21	569	6660
10		Mar-21	765	8750
11		Apr-21	529	5240
12		May-21	475	5470
		Total	7146	81850
No.	Year	Month	Units Consumed	Amount
1	June 21 to May 22	Jun-21	617	6950
2		Jul-21	643	7230
3		Aug-21	611	6950
4		Sep-21	601	6790
5		Oct-21	674	7550
6		Nov-21	477	5530
7		Dec-21	574	6550
8		Jan-22	412	4810
9		Feb-22	413	4820
10		Mar-22	850	9590
11		Apr-22	558	5680
12		May-22	558	6390
		Total	6988	78840

Table 5: Study of the electricity consumption of the meters in premise

The summary of the above study shows the average consumption varies for each month.

4.4 Survey Results

An online survey was conducted to analyse the student and staff views about the Energy management practices adopted in College, following is the result received.

4.4.1 Participation

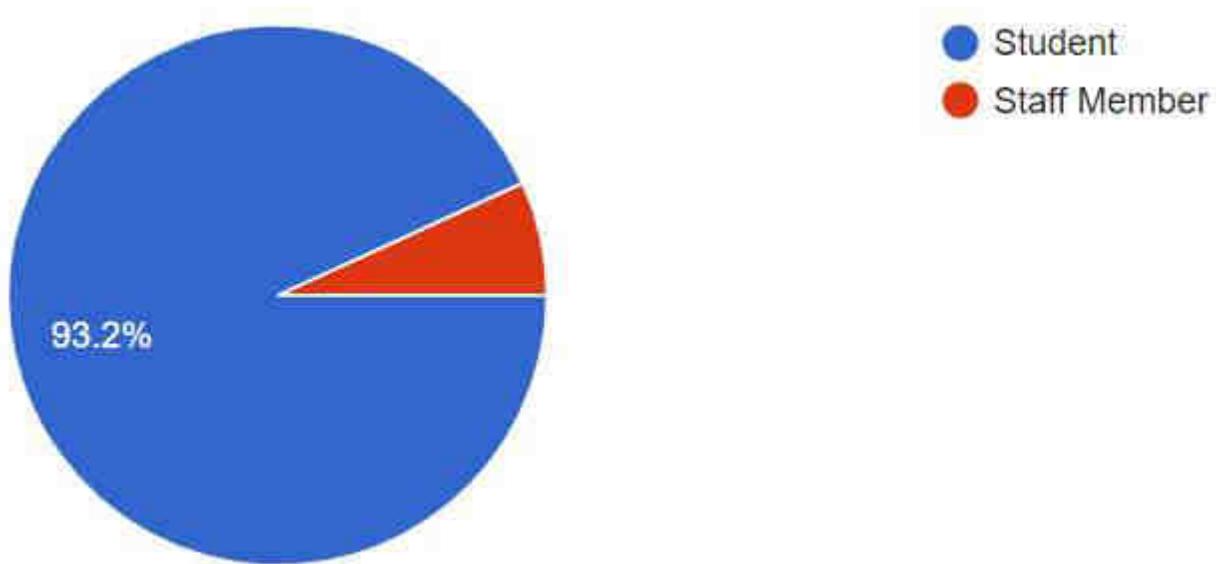


Figure 1: Participation analysis in the survey

A total of **117 responses** were received out of which 93% were students.

4.4.2 Review of the Energy management practices in the premises

Note: The Participants were asked to review the practice on a scale of 1-5 with scale components as follows:

- Scale 1 – Poor
- Scale 2 – Satisfactory
- Scale 3 – Good
- Scale 4 – Very good
- Scale 5 – Excellent

The figures in each of the columns of graph depict the Number of participants responses in numerical (Percentage of the participant response) – For example 101 responses (44.5%)

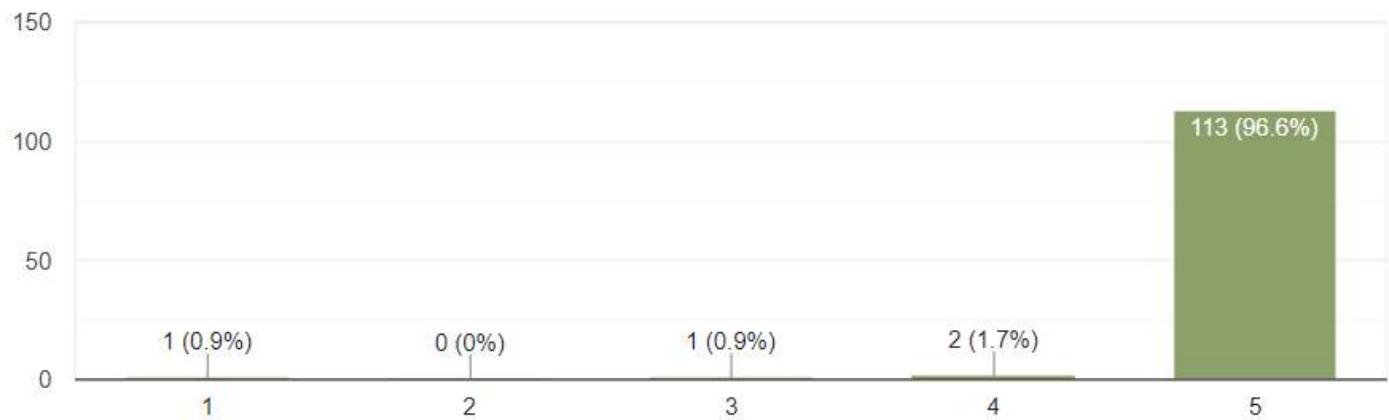


Figure 2: Energy management practices in college

The students, staff **(almost 97%)** of the responses found the practices to be excellent (rating 5) and 2% of the responses found practices to be very good (rating 4).

4.5 Calculated Electrical Consumption as per inventory

The electricity bills provide actual consumption data. The following is the calculated consumption. It is done to understand the percentage of energy usage in the premises by various applications. It is based on the inventory collected and interviews with the staff. The additional data such as wattage is taken from market research. In terms of electrical consumption, the main sources are lights, fans, ac, equipment. The inventory and data collection for sources of energy consumed in the premise is summarised in the following sections. Note: The following analysis is combined for entire premise taking into considerations the duration before pandemic to understand the consumption pattern as post pandemic the premise is used only for a few hours.

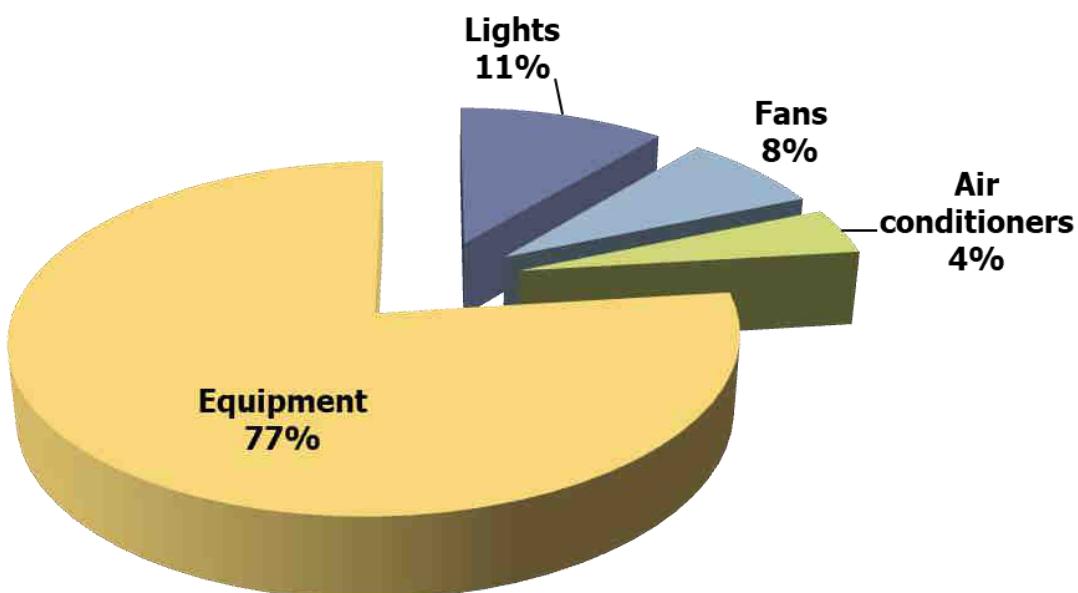


Figure 3: Summary of the calculated electrical consumption as per inventory

The above graph shows that Equipment consumes 77% followed by lights at 11% whereas the fans consume 8% and the air-conditioners consume 4% of the total calculated electrical energy.

4.6 Lights

4.6.1 Types of lights based on the numbers

There are a total of **95 lights in the premises**; the following table shows the various types of lights in the premises.

S. No.	Type	Nos.
1	LED	66
2	Non-LED	29

Table 6: Summary of the types of lights in premise

4.6.2 Types of lights based on the power consumption

The following graph shows the type of lights.

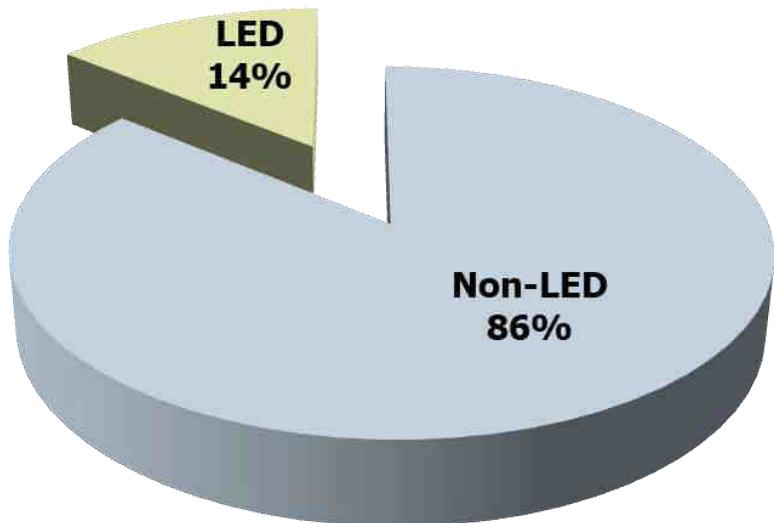


Figure 4: Energy consumed by types of lights in the premise based on the usage study

The analysis of the types of Lights in premises shows **Non-LED lights 86%** followed by **LED lights consuming 14%**

4.6.3 Floor-wise consumption analysis

The energy consumption of Lights is **5,719 kWh** of energy; the following graph shows the floor wise consumption.

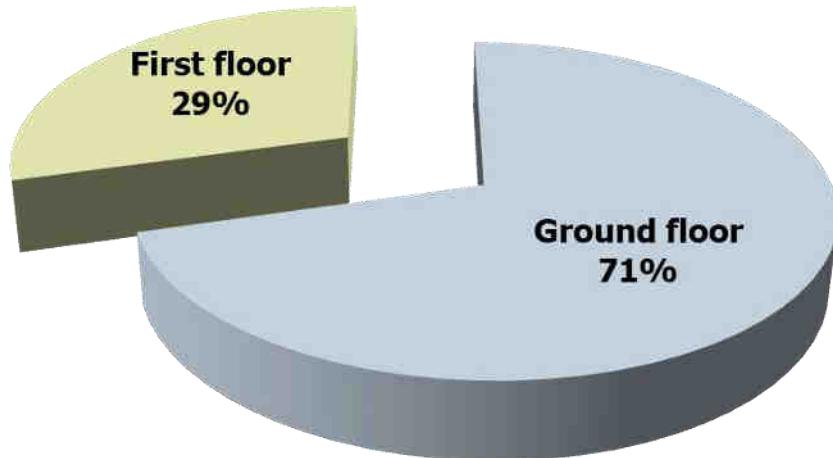


Figure 5: Energy consumed by lights floor wise

The above analysis shows the lights in the **Ground floor consume 71%**; the ones in **First floor consume 29%** (The general areas are considered together) of the total power consumed by lights.

4.6.4 Requirement of NAAC

4.6.4.1 Alternative Energy Initiative

Percentage of power requirement met by renewable energy sources – There are no solar panels at present in the premises.

4.6.4.2 Percentage of lighting power requirement met through LED bulbs

The premise has LED Lights contribute to 31% in terms of number and **14% of the power requirement** is met through the same. As per our study we could conclude that both of these numbers should improve.

4.6.5 Site investigation observations

Some of the points noticed are as follows:

1. All lights are in working conditions
2. Daily monitoring and check is done by the maintenance staff.
3. There was no fuse defect observed.

4.7 Fans

4.7.1 Types of fans based on the numbers

There are a total of **73 ceiling fans** in the premises.

4.7.2 Floor-wise consumption analysis

The energy consumption of fans is **3,942 kWh** of energy; the following graph shows the floor wise consumption.

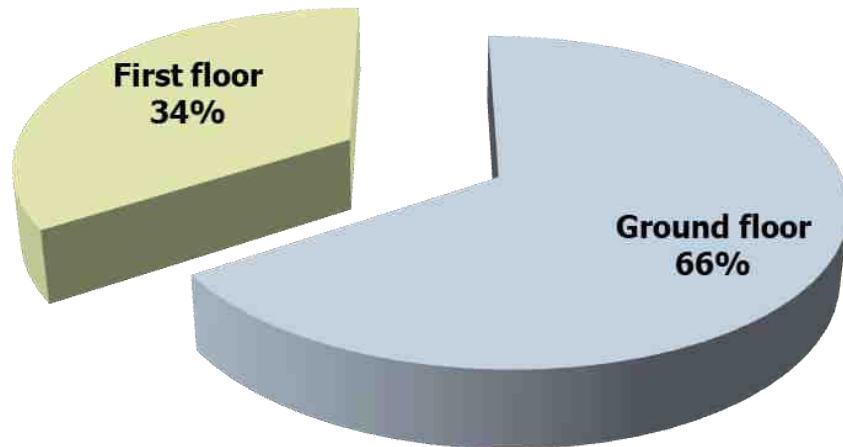


Figure 6: Energy consumed by fans floor wise

The above analysis shows the fans in the **Ground floor consume 66%** and the ones in **First floor consume 34%** of the total power consumed by fans.

4.7.3 Site investigation observations

Some of the points noticed are as follows:

1. All fans are in working conditions
2. Daily monitoring and check is done by the maintenance staff and admin staff in an excellent manner.

4.8 Air conditioners

4.8.1 Types of air conditioners based on the numbers

There is **only 1 air conditioner** on the entire premises.

4.8.2 Floor-wise consumption analysis

The energy consumption of air conditioners is **2,312 kWh** of energy, it is located on the Ground floor.

4.8.3 Site investigation observations

Some of the points noticed are as follows:

1. Daily monitoring and check are done by the maintenance staff and admin staff skillfully.
2. The Outdoor units were not properly cleaned and maintained and had dust collection problems.

4.8.4 About the replacement of current air conditioners

The current air conditioners are well maintained, though there is not an immediate requirement for replacement however, whenever the college undergoes redevelopment or a new floor is constructed there can be provisions for replacement with energy-efficient appliances or new air conditioners that require less power consumption.

4.9 Equipment

4.9.1 Types of Equipment

There are **16 types of equipment totalling to 108** in the premises as follows:

S. No.	Name	Nos.
1	RO Plant	1
2	Projector	9
3	Desktop Computer	47
4	Water motor starter	2
5	Wifi router	3
6	Printer	7
7	Scanner	3
8	Water cooler	1
9	Xerox Machine	1
10	TV	2
11	Sanitary vending machine	1
12	Intercom	6
13	HUB	1
14	BioMetric	1
15	Speakers	7
16	CCTV Cameras	16

Table 7: Types of equipment in the premise as per the quantity

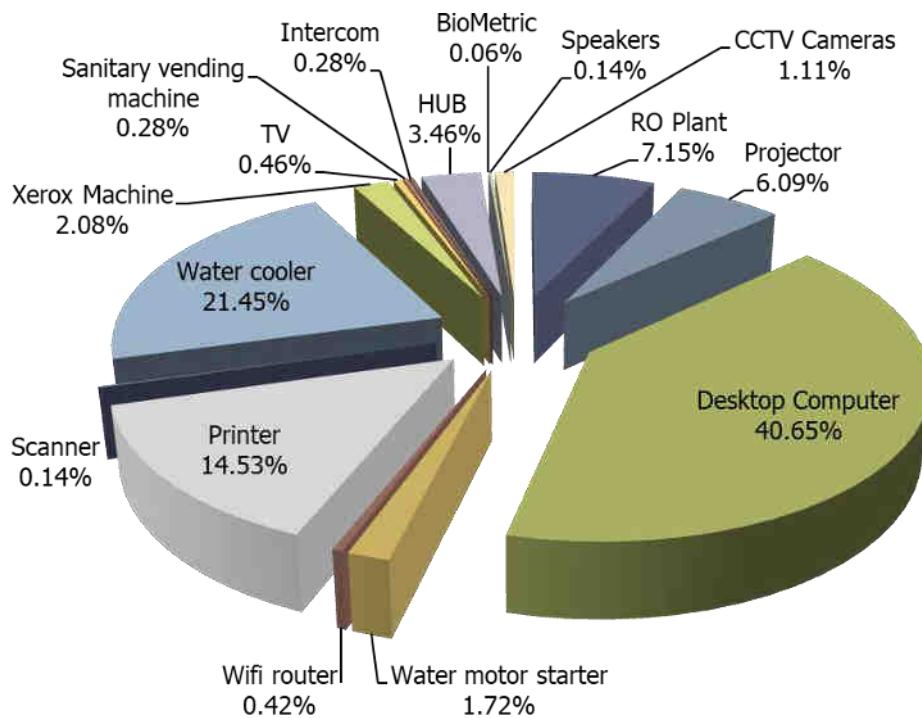


Figure 7: Summary of Energy consumed by equipment in the premises

The above summary shows that **desktop computer consumes more energy at 40.65%** while **water cooler consumes 21.45%** and the **printer consumes 14.53%** these are maximum consumers as compared to other equipment. UPS and Inverter (when used for electrical consumption else it is a battery backup and does not require electricity as an equipment) are also one of the equipment but are excluded in this calculation.

4.9.2 Site investigation observations

Some of the points noticed are as follows:

1. All equipments are in working conditions and daily monitoring and check is done by the maintenance staff and admin staff in an excellent manner.
2. No defect was found in any equipment of electrical consumption.

4.10 Recommendations for a Sustainable Habitat

Over the time energy efficient appliances have been a boon not only to the energy saving parameters they adhere to but also the eco-friendly habits it helps to inculcate. The Institution such as Schools and Colleges are the best way to implement these initiatives. It creates awareness among the students at a young age. The Institutions also act as a symbol and representative of being an energy efficient premise.

Following the analysis we found are some of the suggestions which can be implemented for an energy efficient Institution. This would help in reduction of the current electrical consumption by a major percentage.

4.9.1 Electromechanical systems - Electrical and Lighting

Section 1 - Lights

Non-LED lights

The current light analysis shows that Non-LED tube lights consume anywhere between 24W, 36W and 40W when in use; similarly the CFL lights consume more than 25 to 28W when in use; these should be replaced with LED lights which consume on an average 16-20W when in use.

Our technical analysis shows that there would be a reduction of an average of **63% reduction** in energy consumption through lights specifically as a part of the electro - mechanical system if all **Non-LED lights on all floors** are replaced with an energy efficient appliance whenever the college undergoes renovation.

Section 2 - Fans

Ceiling fans

The current Fans are in proper working conditions and maintained well. The ceiling fans are in more quantity and consume at least 45W when in use. These should be replaced with energy efficient fans consuming 14W when in use. Our detailed study states that is all the **ceiling fans on all floors** if replaced with star rated appliance results in a reduction of average of **69% reduction** in energy consumption if replaced with energy efficient appliance. It will be suggested to either replace these now if college can have certain plans else the replacement can be done when fans get damaged or are not in working condition.

Section 3 - Equipment

Desktop computers to laptops

Among all equipment it suggested to replace the desktop computers with laptops as this would be energy efficient. A normal desktop computer consumes on an average 250W and it is to be connected all time when it has to be used. On the contrary a laptop consumes 40W and has a battery backup which lasts up to 4 hours.

There is **an average 84% reduction** in energy consumption if replaced with energy efficient appliance which is a laptop in all the areas of Educational and Residential areas.

This replacement is however is dependent on a variety of factors as follows.

- Some of the senior staff members may be more convenient with computers, replacement with laptop might result in a change of the working patterns and hours which may affect the productivity.
- Laptops – in case are not handled with care such as if dropped unintentionally might result in data imbalance.
- Students who are not day scholars can use laptop as per their own convenience, whereas in common areas there can a monitoring about the usage hours hence computers may be a preferable option then laptop in certain spaces.
- Similarly depending on the pandemic situation in case it might be possible due to irregular usage the device might have issues while functioning.

Thus the University should analyse the above points and then devise a strategy about the replacement, essentially when the devices get damaged or are not in working condition they can surely be replaced.

As well as once they are not in working condition the proposed strategy should be linked towards e-waste management as well.

On-site investigation and physical verification

Energy consumption practices in the premises



5. Towards a Healthy & Sustainable Institution

5.1 Inputs by Greenvio Solutions

Based on the analysis of the study of premises in addition to the recommendations provided in each section of Ecological, Water, Waste and Energy Audit the College can adopt the following strategies towards a Healthy and Sustainable Institution practices.

- a) Cutlery in the Canteen** – The regular plastic and steel plates, spoons used in Canteen can be replaced with eco-friendly and organic leaves, paper straw, disposable plates, edible spoons and tables made out of sugarcane waste or bamboo. This will be first of its kind initiative to be adopted and practiced thus also inculcating the healthy practices in students.
- b) Additional fire safety** - Measures such as Hose reel, signages, fire-fighting tank, fire alarm and sprinkler system should be adopted.
- c) Signages** – In addition to the signages being in regular language there can be additional signages in braille language for the especially abled students.

5.2 Survey Results

An online survey was conducted to analyse the student and staff views about what changes according to you can be undertaken for Green audit improvement in College premise and activity.

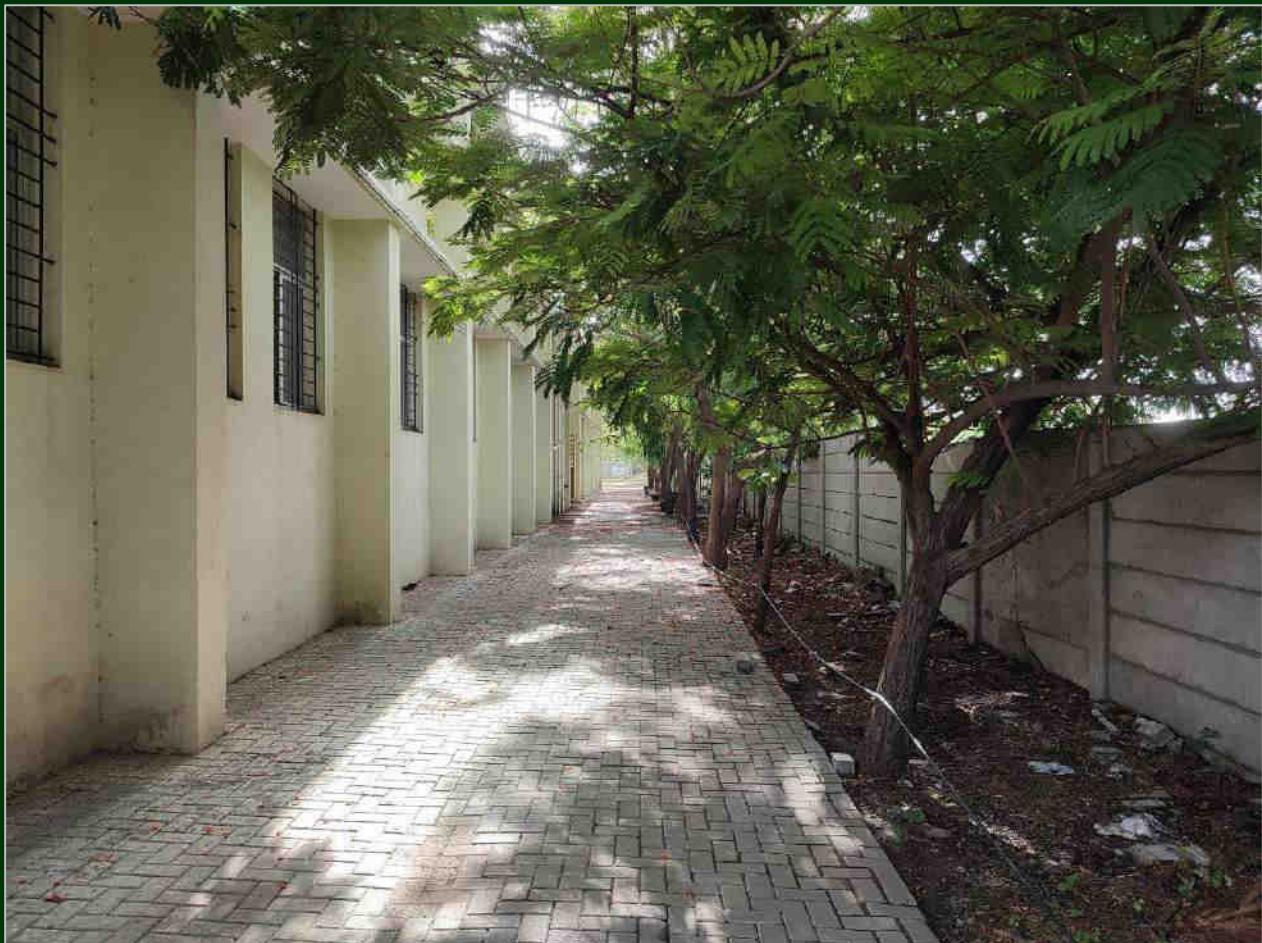
Some of the suggestions by the Students and staff are listed below:

- Ozone park
- Advocate the college initiative to encourage students to respect environment and conserve it through plantations.
- Special campaigns for students
- Creating eco-friendly rules in the premises.

However, it should be noted that the College has taken up multiple initiatives and because of Pandemic the students have not practically visited the premises so many of these points are not mandatory at the moment.

6. References

1. Uniform Plumbing Code – India, 2008
2. IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
3. IGBC Green Landscape Rating system, March 2013
4. BOMA Canada Waste Auditing Guide, Best Environmental Standards, BOMA BEST – Canada
5. Used only for understanding Universal design - Universal accessibility Guidelines for Pedestrian, Non-motorized vehicle and Public Transport Infrastructure – Report guidelines by Samarthyam (National centre for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation.



ENVIRONMENT AUDIT

STUDY PERIOD (TWO YEARS) 2020-2021 AND 2021-2022

Sustainability study **AUDIT REPORT**

Studied for

Padmashali Shikshan Sanstha's

**Anusayabai Ramchandra Burla
Mahila Varishtha Mahavidyalaya**

City Survey No. 9705/9/A/2A, Raviwar Peth,
Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005

Studied in the capacity of

An accredited & Certified Green Building Professional



Valid till August 2023

Disclaimer

The Audit Team has prepared this report for the **Padmashali Shikshan Sanstha's Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya** located at City Survey No. 9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005 based on input data submitted by the College analysed 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 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 College. 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 period of time 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 has completed audits of multiple Institutes including Technical, State University, Private University and Single Faculty Colleges for a total of more than 60 lakhs+ sq. ft. of Built-up area audited till date Pan India as an Accredited and Certified Green Building Professional-Architect; ISO Certified I.A. (IMS). 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 in capacity of Accredited & Certified Green Building Professional with extensive experience.

Greenvio Solutions

Developing Healthy and Sustainable Environments

We are an Environmental and Architectural Design Consultancy firm

Sustainable Academe is our department for conducting Audits

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Acknowledgement

The Audit Assessment Team thanks the **Padmashali Shikshan Sanstha's Anusayabai Ramchandra Burla Mahila Varishta Mahavidyalay, Solapur** for assigning this important work of Environment Audit. We appreciate the cooperation extended to our team during the entire process.

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1. Introduction

1.1 About the Padmashali Shikshan Sanstha

It was established on 9th November, 1912 by the patrons of Padmashali community. It is one of the largest and leading institutions in Solapur which constitutes 16 Schools and 04 Junior Colleges, 01 Night College (Junior) and 01 Senior College. It caters the needs of 15 thousand students every year thorough twenty two branches.

The students are basically from migrated families, minorities and on the whole from downtrodden societies. The institution successfully celebrated its Centenary in 2012. Patrons of this community, by their selfless service and dedication towards education, carved the future of many students in hundred years by establishing schools and colleges under Padmashali Shikshan Sanstha.

1.2 Statements of the Institution

Vision - To impart education to women which aims at Quality Education, Academic Excellence, Social Concern and Character Formation.

Mission - Empowerment of Women through Quality Education.

1.3 About the Institution

Seth Ramchandra Ramayya Burla was a successful textile businessman and manufacturer in Solapur. He pulled out all the stops to start senior College for the students hailed from Padmashali minority community. He is the donor of the many branches including Anusayabai Ramchandra Burla Mahila Mhavidyalaya.

He was aware of social commitment and closely associated with the important events of the institution as a well-wisher of Padmashali Education Institution. He donated his homes to start two schools and a college. Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya was inaugurated by former trustee and general secretary of the institute, Gangdharpant Kuchan.

The College imparts skill and career oriented education thorough short term and certificate courses. A large number of students are benefited by support services and inter - disciplinary activities provided by the college. The College also offers access to distance

mode of learning through the center of Yashwantrao Chavan Maharashtra Open University. The College has sound infrastructure, highly qualified and experienced teaching staff, number of support services and established tradition to provide quality education to the needy masses deprived of education.

The Motto of the College "To impart education to women which aims at Quality Education, Academic Excellence, Social Concern and Character Formation." **The Aim (Goals) of the College is as follows:**

1. To academically equip the minority students through the medium of higher education.
2. To inculcate basic human values and professional ethics.
3. To motivate students for innovation and creativity.
4. To nurture employability skills among the students.
5. To inculcate spirit of enquiry, scientific temper and research culture.
6. To foster students for academic integrity.
7. To encourage students for quest for excellence.
8. To promote students to use technology.

The Institution offers the following courses.

- **Bachelor of Arts (B.A.)**
- **Bachelor of Computer Applications (B.C.A.)**
- **Bachelor of Commerce (B.Com)**
- **Certificate Courses**
 - ⇒ Fashion designing
 - ⇒ Beauty parlour
 - ⇒ Small scale industries
 - ⇒ Value education and ethics
 - ⇒ Tourism
 - ⇒ Nursery development
 - ⇒ Tally with GST

- **Value Added Course**

⇒ Research Methodology

⇒ Professional ethics

The College works towards training young men and women to be competent, committed and compassionate, and lead in all walks of life. **It has the objective** "To Empower women through quality education."

1.4 The surrounding premises around the Institution

The Premises is situated amidst the landscape serene of **Solapur district of Maharashtra** with immense peace and calmness in the surroundings. There is a frontal approach which provides quite a beautiful appreciation space while approaching the premises; this area is surrounded by huge trees which positively complement the background-foreground aspect in terms of Natural space and built-form Architecture. It also provides ample shade which enhances the micro climate of the region. The location of College is feasible to the nearby essential amenities such as Public Health Center, Fire Station, Civic body-Public administrative buildings, Recreational gardens and Police Station which are not too close but nearby.

1.5 Assessment of the College

1.5.1 Affiliations

The College has all its courses approved and affiliated to **the Punyashlok Ahilyadevi Holkar Solapur University, Solapur, Maharashtra state.**

1.5.2 Certification

- **AISHE** – The code is C-15690.
- **NIRF** – The College has been participating in the NIRF rankings every year.
- **ISO** – The College is ISO 9001:2015 Certified.

1.5.3 Accreditation

NAAC - The following are details of the reaccreditation of the College.

Cycle	First	Second	Third
CGPA	-	2.62	2.76
Grade	B+	B	B++
Year	2004	2012	2017

Table 1: NAAC Accreditation details of the Institute

The College is due to enter its Fourth cycle of NAAC.

1.5.4 Recognitions

The College has achieved the following recognition from **University Grant Commission (UGC) under section 2 (f) and 12 (b) of the UGC Act by University Grants Commission, New Delhi.**

2. Institution overview

2.1 Populace analysis for Academic year 2021-2022

2.1.1 Students data

The student data (shared by the College) shows there were a total of **1,167 Girls students** in the premises.

2.1.2 Staff data

Type	Male	Female	Total
Admin Staff	04	01	05
Teaching Staff	09	06	15
Non-Teaching Staff	03	01	04
Total Staff Members	16	08	24

Table 2: Staff data of the Institution for 2021-2022

The staff data shows the premises had a total of **24** Staff Members.

2.2 Populace analysis for Academic year 2020-2021

2.2.1 Students data

The student data (shared by the College) shows there were a total of **1,170 Girls students** in the premises.

2.2.2 Staff data

Type	Male	Female	Total
Admin Staff	04	01	05
Teaching Staff	10	06	16
Non-Teaching Staff	03	01	04
Total Staff Members	17	08	25

Table 3: Staff data of the Institution for 2020-21

The staff data shows the premises had a total of **25** Staff Members.

2.3 Total College Area & College Building Spread Area

The **total site area is 1.10 Acres** and the **total Built-up area of College is 30,623 sq. ft. for a total of 1,191 footfalls.**

2.4 College Infrastructure

2.4.1 Establishment

The College was established in 1990. The College is located pretty close to nature and hence has very fresh environment which is absolutely pollution free and healthy. The Building is a Reinforced Cement Concrete (RCC) framework building. **Overall the Infrastructure of the Building is excellent in terms of the Architecture Design and Green Building Design. The Premises covers quite a few of the requirements for a Green Habitat.**

2.4.2 Spatial Organisation

The overall ambience of the College is warm and inviting. The classrooms and other spaces have ample natural ventilation in the form of clear glass windows with fresh air ventilation. The architecture of the building is quite well designed. The colour palette not just helps the building to stand out but also provides an Institutional arena. It balances with the local architecture with the natural landscapes of huge trees all around. The design emphasis on providing calmness to the built form and gradually merges with the serene landscape.

The floor to floor height is more than 10 feet. There is no provision for lifts in the premises, whereas there are amenities such as CCTV, Fire extinguishers, Library and first aid box.

2.4.3 Operation and maintenance of the premises

The interview session with the staff regarding the operation and working hours is summarized in the table. The Institution is open from Monday to Saturday. The detail wise timing for each is mentioned below.

S. No.	Section	Days	Time	Hours/ day	Days in a year
1	All Lectures	Monday to Saturday Except Holidays	7.30 am to 12.30 pm	5	280
2	Library Hours	Monday to Saturday Except Holidays	8 am to 5 pm	9	300
3	Administration	Monday to Saturday Except Holidays	10 am to 5 pm	7	300

Table 4: Schedule of the timings of the premises

3. Green Building Study Audit

3.1 About the Green Building Study Audit

It is a systematic study of the aspects which make the Institution a sustainable and healthy premises for its inhabitants.

3.2 Analysis for the Green Building Study Audit

The procedure included detailed verification for the following:

Energy Audit

- Analysis of the Lights, Fans, AC, Equipment
- Renewable energy
- Scope for reducing the current energy bills if any
- Improvement in the thermal comfort of the campus

Green Audit

- Green initiatives
- Hygiene audit
- Water Audit - Analysis of the current water consumption of campus; Scope to include Rain water harvesting and Waste water treatment in premises
- Waste Audit - Current waste produced, its segregation and usage; Strategies to be adopted for waste management and awareness

Environmental Audit

- Analysis of the current landscape + hardscape of campus
- Analysis of the flora and fauna of campus
- Strategies adopted at present to enhance vegetation
- Measures that can be adopted for ecological improvement of the premises.

3.3 Strategy adopted for Green Building Study Audit

The strategies included data collection from admin department, actual inventory, investigation to check the operation and maintenance, analysis of the data collected and preparation of the Report.

3.4 Timeline of the activities for Green Building Study Audit

- | | |
|------------------|---|
| • 10 March 2022 | – Allotment and Initiation by the College |
| • 12 March 2022 | – Induction Meeting |
| • 19 August 2022 | – Data submitted by College |
| • 23 August 2022 | – Survey of the Student and staff submitted |
| • 26 August 2022 | – Site visit at the premises |
| • 26 August 2022 | – Submission of the report |

On-site investigation and physical verification
Audit Team during the visit on 26 August 2022



Discussion at the rainwater harvesting and proposed garden area



On-site review with the Team



On-site discussion with the Team

4. Site Study

The following listed are some of the positive site elements which are beneficial to the College in terms of tangible and intangible benefits.

- **Location** - The Padmashali Shikshan Sanstha's Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya located at City Survey No. 9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005 and falls under the Solapur Municipal Corporation.
- **Neighbourhood context** - The premises is surrounding by open spaces and Residential, Commercial and Educational areas on the immediate surroundings of the site.
- **Natural physical features** – The premises includes a rich biodiversity and huge number of plants in the adjacent open space. The site does not have major difference in the land levels (contours).
- **Manmade features** – The premises is situated in an urban area amidst residential areas and open spaces with appropriate proximity to necessary amenities. There is sufficient appreciation space for entrance. The materials used for construction are RCC and the landscaping includes innumerable natural trees as well as potted plants.
- **Circulation** – There is a smooth transition of pedestrian traffic inside the premises due to the large entrance gate and the huge open space where vehicles of students and staff are parked.
- **Climate** – The climate here is tropical. The summers here have a good deal of rainfall, while the winters have very little. This location is classified as Aw by Köppen and Geiger. In Solapur, the average annual temperature is 27.3 °C | 81.2 °F. About 835 mm | 32.9 inch of precipitation falls annually.

(Source: <https://en.climate-data.org/asia/india/maharashtra/solapur-2803/>)

Ecological (Environment) Audit



Background reference image Yugal Shrivastava on pixels

5. Ecological (Environmental) Audit

Environment is an essential part for human survival. We co-exist with the environment and it cannot be termed as a separate entity. The Ecological audit helps to understand the flora, fauna that exists and steps that can be taken to improve the same. To denote if there are problems related to sound in and around the surrounding. In terms of the carbon footprint it helps in keeping a tab on the eco-friendly habits incorporated by the inhabitants of the premises. Health today is the topmost priority, a general understanding of the initiatives undertaken along with sufficient hygiene practices adopted. Universal design is applicable to all built and unbuilt spaces.

As part of our study we could state that the Institution has developed eco-friendly practices and sustainable solutions which are well reflected in the rich biodiversity of the Premises. Being situated near the city the appreciation space towards the main entrance provides a welcoming approach to the College.

The College has huge open space used by all. The students use it as a leisure place for study and College ground is used for sports activities. There are ample resting spaces as part of building design which provide a resting and warm welcoming approach in the premises.

5.1 Open Spaces

There is a beautiful balance of natural and open spaces in the premises and the open/vegetation spaces are balanced overall. The ground is used by students at present for sports and cultural gatherings. The design on the entire is such that the landscape and softscape spaces are very well oriented and located thus being extremely useful to Institutions in the site. **There are provisions for natural plantations which have enhanced the beauty of the space.**

There are adequate numbers of Maintenance staff allotted for the upgrading the open spaces and they have done an excellence job in terms of the duty allotted. The infrastructure committee too is involved in this process. The traditional tap and pipe facility is adopted for watering and the College has taken special provisions for the same. The spaces are watered daily in summer. **The efforts to maintain the existing space are commendable.**

5.2 Flora and fauna audit

5.2.1 Flora Audit

A flora survey was carried out to identify the total numbers of plants and trees every year. The landscape area has a variety of plantations constituting hundreds of surveyed trees in premises in the last few years as follows with detail description of each.

S. No.	Plant name	Type	Nos.	Planted by
1	Jacaranda Mimosifolia (Nilmohar)	Tree	12	Planted by staff, students
2	Delonix Regiarafin (Gulmohar)	Tree	17	Planted by staff, students
3	Vachellia Nitotica (Australian Babhul)	Tree	10	Planted by staff, students
4	Green Vegetation (Saag)	Tree	31	Planted by staff, students
5	Bambus Dendro Calmus (Bamboo)	Tree	6	Planted by staff, students
6	Azadirachata Indica (Kadulimb)	Herb	16	Planted by staff, students
7	Pimple	Tree	1	Planted by staff, students
8	Basil (Tulas)	Herb	55	Planted by staff, students
9	Poyalthia (Ashok)	Tree	7	Planted by staff, students
10	Chafa	Tree	1	Planted by staff, students
11	Saptaparni	Tree	3	Planted by staff, students
12	Grevilla Robusta (Silver Oak)	Tree	6	Planted by staff, students
13	Chipadi	Tree	1	Planted by staff, students
14	Bhokar	Tree	3	Planted by staff, students
15	Subhabal	Tree	4	Planted by staff, students
16	Bor	Tree	1	Planted by staff, students
17	Peru	Tree	1	Planted by staff, students

Table 5: Details of the Flora in the premises

At present there are 175 plantations comprising of plants, trees, shrubs. All of these are planted on various occasions while some have grown naturally. Timely maintenance with sufficient care has resulted in positive benefits for the surroundings.

5.2.2 Fauna Audit

It is a beautiful site to have the birds chirping around the College premises. It highlights the ecological co-existence concept in the most beautiful way. The surveyed data of the fauna shows that there are Butterflies, Moths, *Culex* Mosquito, *Anopheline* Mosquito, Ants, Spiders, *Myna*, Sparrow, Squirrel, Lizard are available in the premises

5.3 Noise Audit

5.3.1 Macro level

On a macro level there are open grounds in the site. The approach road too has very minimal traffic. As the College is oriented amidst the residential areas with immense vegetation the noise levels do not affect the students and staff in their day to day functioning. The approach road too is pretty away. **Overall the noise level in terms of bad effect is extremely low and there are positive outcomes as per our analysis on macro level.**

5.3.2 Micro level

The College has an adequate open space covered with huge trees prevailing naturally in the premises which act as a noise barrier; in addition the Institution building is surrounded by Residential Buildings which further act as a benefit in reducing any noise pollution. There are parking provisions provided in the premises which causes minimum noise as they are situated near the entrance which is a bit away from the College building.

There are no particular equipments which cause any noise effect. **Overall the noise levels inside the premises are low which is a good approach.**

5.4 Carbon Footprint Audit

5.4.1 Eco-friendly Commuting Practices

Based on data collection and discussion with staff the following points were noted:

- **Ease of commuting** – Owing to close proximity to public transport the access is very feasible and walk able.
- **Parent's commute** - There are 2 Parent-teacher meetings held in a year and the turn-out is around 40-60%

- **Vehicles details** – The provision provided by College includes vehicle parking is allowed at present as follows.

S. No.	Type	Nos.	For (student/ Staff)
1.	Cars	2-3	Staff
2	Bikes	30-35	Staff and Students
3	Cycles	45-50	Students
4	Electric vehicles	0	Staff and Students

Table 6: Details of the Parking in the premises

- **Commute details** – The students and staff commute from multiple places. The details are summarised below.

S. No.	Name of the Places	Percentage of the Students
1	From Solapur City	80% Students come from urban minority areas
2	Villages form South Solapur, North Solapur, Akkalkot Taluka	20 % students come from these places

Table 7: Details of the places students and staff commute from

5.4.2 Heat Island Reduction

The Institution has **adopted the following practices which are yielding positive results** in terms of Urban Heat Island Effect which refers to increase in temperature of the surrounding because of ineffective strategies.

- **Exposed roof areas** – The terrace is a flat roof which is absolutely clean and well maintained. The Buildings are covered with white paint and the Maintenance staff along with Management have taken ample measures to maintain the same. **There was no weathering of roof observed. The current practices are well maintained.**
- **Exposed non-roof hardscape areas** - There are pathway on all sides of the premises. These include some natural and potted plantations along the pathways. **However, the trees are huge and the canopy is wide spread thus providing ample shade to the outdoor areas of the premises. Hence, there are no direct sunrays or similar effect affecting the students and staff. The College has an open space in the form of lush green carpet which acts as a solution for the urban heat island effect.**

This huge green space is a very good solution for reducing any harmful health consequences which may arise due to harsh sunlight.

There are adequate measures adopted in the premises to reduce heat island effect of Building roofs and in site.

5.4.3 Outdoor Light Pollution Study

The College compound lights are not upward looking thus, these do not cause light pollution.

5.5 Universal Campus

As per World Report on Disability, 2011 there are 180 million approx. Persons with Disabilities that makes it 15% of total population of India.

There are Ramps, Handrails along staircase and low height risers in the Staircases as part of universal campus initiatives. The design of the premises is appropriate for access with passages and corridors being wide enough in size and naturally ventilated. The doubly and singly loaded corridors are safe from fire safety aspect. The College has resting places (seating areas) in the outdoor along the trees thereby making it user friendly for the especially abled students. **The College can have plans to install lift in future depending on the situation and facilities like addition of universal toilet.**

5.6 Fire Safety

The Institution has undertaken adequate fire safety measures. Each floor has an open staircase without any barriers for fire safety measures. These staircases are free of any kind of storage or combustible material. The windows in each classroom are at a low height with fresh air and natural light thereby adding to ample ventilation throughout the day. **The College should adopt additional fire safety practices such as fire hydrant, sprinkler, fire alarm and other systems whenever the College undergoes further extension or renovation.**

5.7 Survey Results

An online survey was conducted to analyse the views about the premises, following are some of the reviews.

5.7.1 Participation

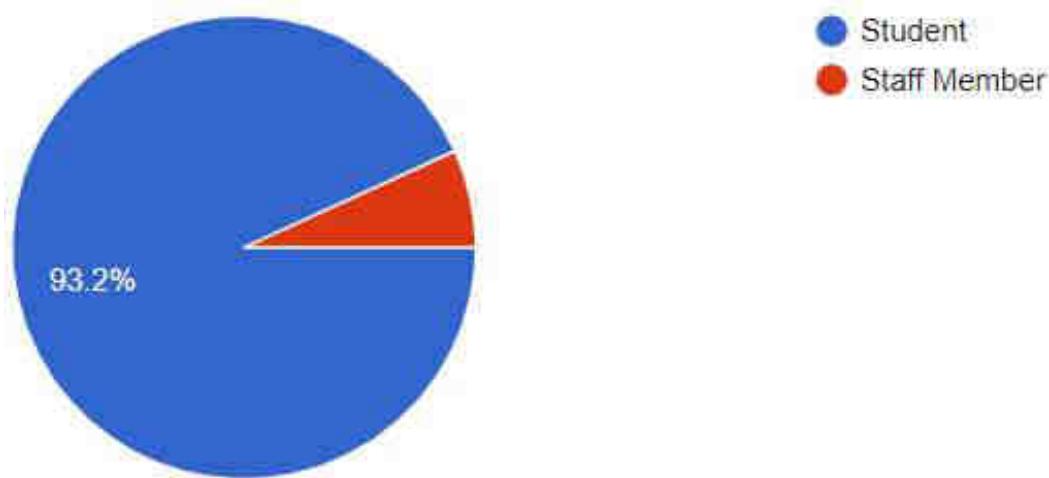


Figure 1: Participation analysis in the survey

A total of **117 responses** were received out of which 93% were students.

5.7.2 What according to you are the positive steps taken by the College towards Green Building/ Good maintenance?

We have listed some of the key responses below.

- Water purifier
- Clean premises

The majority of the responses stated these two points.

5.8 Positive site features as per our study

a) Avoid using plastic in premises

There are provisions for ban on the use of plastic bags or products in the Premises.

b) OPAC system

The system in the library is beneficial for the students.

c) Ample greenery

There are provisions for garden, plenty of open areas with traditional trees and greenhouse in the premises.

a) User friendly movability in premises

There are provisions for Kerb Ramp near the main entrance of the Building premises, also low height hand rail for ease of access.

5.9 Recommendations for a Sustainable Habitat by Greenvio Solutions

Site beautification

a) Additional facilities for birds

There can be provision for drinking water and food facility for birds visiting in the College premise.

b) Nutrition pits

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

Universally accessible premises

a) Universal Toilet

There should be minimum 1 toilet for the specially abled people as per guidelines prescribed by National Building Code 2016 with size being minimum or more than 1.5m x 1.5m.

b) Resting places

There should be increased provision for resting places on-premises outdoor and indoors.

Pollution Control

a) Promote the use of Eco-friendly vehicles

There can be provision for battery operated vehicles/ low emission vehicles such as electrically driven vehicles parking in open space along with battery charge points, this would inspire students to change mode of transportation and adopt sustainable practices.

b) Bicycles as a gift

As an appreciation gesture may be the students toppers/ staff best performers can be awarded with a bicycle occasionally.

c) Paperless technologies for offices

The college can go technology-friendly and go paperless in the functioning of the Premise to a certain extent maybe not fully.

d) Avoid paper wastage through books

The College can collect all old semester notebooks; these can either be converted to reusable paper on the premises through a workshop or using a shredder machine or handed over to a vendor for making fresh paper. Additionally, the Students can be motivated to undertake similar practices on an individual note.

Smart and responsible environment systems

Smart Gardening System

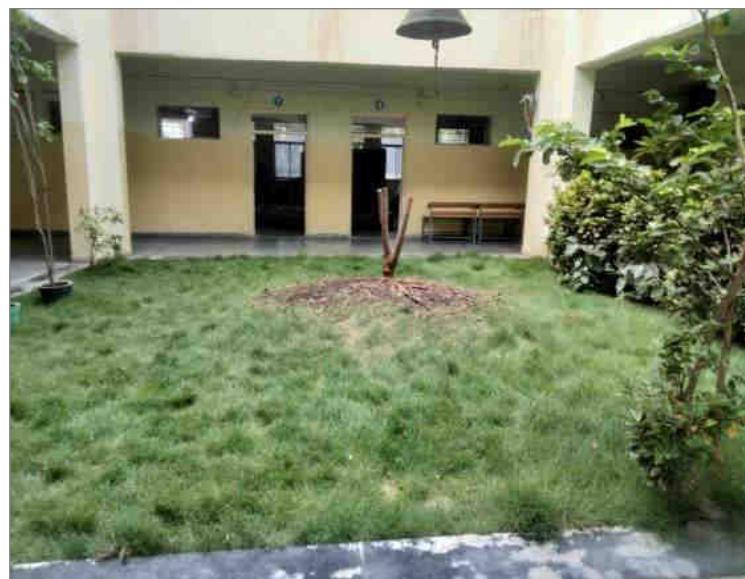
The College can undertake a Smart Gardening system using IoT Technology such as an automated watering system. This will result in saving time by scheduling time for watering; Saving money and water as smart irrigation systems have automated water schedules in addition to tracking dampness of soil which helps the irrigation system know when and how much the garden needs. It also helps in healthier plants as with the help of apps, smart irrigation systems, or even smart growing containers, these tasks can be provided evenly and allow the plants to be healthier and more productive. More information on this system can be checked here <https://www.happysprout.com/inspiration/what-is-smart-gardening/>

On-site investigation and physical verification

The ecologically friendly ambience with facilities such as open spaces, lifts and gardens



Shaded parking and nursery provisions



Plantations in the premises



Open spaces and ramp facility

6. Towards a Healthy & Sustainable Institution

6.1 Inputs by Greenvio Solutions

Based on the analysis of the study of premises in addition to the recommendations provided in each section of Ecological, Water, Waste and Energy Audit the College can adopt the following strategies towards a Healthy and Sustainable Institution practices.

- a) Cutlery in the Canteen** – The regular plastic and steel plates, spoons used in Canteen can be replaced with eco-friendly and organic leaves, paper straw, disposable plates, edible spoons and tables made out of sugarcane waste or bamboo. This will be first of its kind initiative to be adopted and practiced thus also inculcating the healthy practices in students.
- b) Additional fire safety** - Measures such as Hose reel, signages, fire-fighting tank, fire alarm and sprinkler system should be adopted.
- c) Signages** – In addition to the signages being in regular language there can be additional signages in braille language for the especially abled students.

6.2 Survey Results

An online survey was conducted to analyse the student and staff views about what changes according to you can be undertaken for Green audit improvement in College premise and activity.

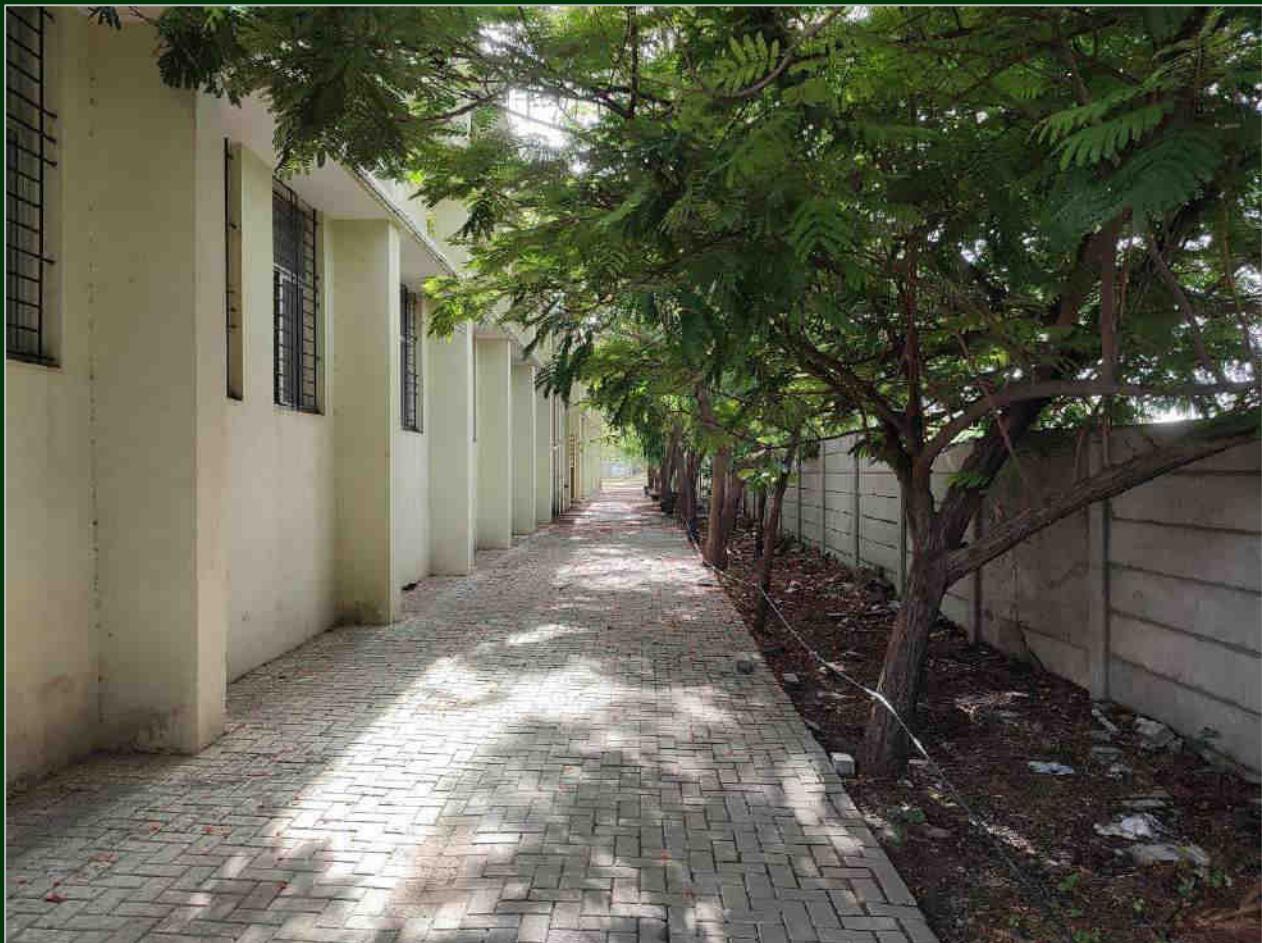
Some of the suggestions by the Students and staff are listed below:

- Ozone park
- Advocate the College initiative to encourage students to respect environment and conserve it through plantations.
- Special campaigns for students
- Creating eco-friendly rules in the premises.

However, it should be noted that the College has taken up multiple initiatives and because of Pandemic the students have not practically visited the premises so many of these points are not mandatory at the moment.

7. References

1. Uniform Plumbing Code – India, 2008
2. IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
3. IGBC Green Landscape Rating system, March 2013
4. BOMA Canada Waste Auditing Guide, Best Environmental Standards, BOMA BEST – Canada
5. Used only for understanding Universal design - Universal accessibility Guidelines for Pedestrian, Non-motorized vehicle and Public Transport Infrastructure – Report guidelines by Samarthym (National centre for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation.
6. Climate data <https://en.climate-data.org/asia/india/maharashtra/solapur-2803/>



Energy Audit Certificate

is awarded for **2020-21 and 2021-22 (Analysed for 2 years)** to the Esteemed Institution

Padmashali Shikshan Sanstha's

Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya

City Survey No. 9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005

(Site visit held on Friday, 26 August 2022)

As part of the Institution's initiatives for a Healthy & Sustainable College the audit was conducted.
We appreciate the immense efforts taken by Staff and students towards the Energy Management and Conservation.

Issued on **Friday, 26 August 2022** valid till **August 2023**



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ENERGY AUDIT

STUDY PERIOD (TWO YEARS) 2020-2021 AND 2021-2022

AUDIT REPORT

Sustainability study

Studied for

Padmashali Shikshan Sanstha's

**Anusayabai Ramchandra Burla
Mahila Varishtha Mahavidyalaya**

City Survey No. 9705/9/A/2A, Raviwar Peth,
Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005

Studied in the capacity of

An accredited & Certified Green Building Professional



Studied by

Valid till August 2023

Disclaimer

The Audit Team has prepared this report for the **Padmashali Shikshan Sanstha's Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya** located at City Survey No. 9705/9/A/2A, Raviwar Peth, Rajendra Chowk, Solapur, Maharashtra, Pin Code: 413005 based on input data submitted by the College analysed 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 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 College. 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 period of time 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 has completed audits of multiple Institutes including Technical, State University, Private University and Single Faculty Colleges for a total of more than 60 lakhs+ sq. ft. of Built-up area audited till date Pan India as an Accredited and Certified Green Building Professional-Architect; ISO Certified I.A. (IMS). 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 in capacity of Accredited & Certified Green Building Professional with extensive experience.

Greenvio Solutions

Developing Healthy and Sustainable Environments

We are an Environmental and Architectural Design Consultancy firm

Sustainable Academe is our department for conducting Audits

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Acknowledgement

The Audit Assessment Team thanks the **Padmashali Shikshan Sanstha's Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalay, Solapur** for assigning this important work of Energy Audit. We appreciate the cooperation extended to our team during the entire process.

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Sustainable Academe

Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

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1. Introduction

1.1 About the Padmashali Shikshan Sanstha

It was established on 9th November, 1912 by the patrons of Padmashali community. It is one of the largest and leading institutions in Solapur which constitutes 16 Schools and 04 Junior Colleges, 01 Night College (Junior) and 01 Senior College. It caters the needs of 15 thousand students every year thorough twenty two branches.

The students are basically from migrated families, minorities and on the whole from downtrodden societies. The institution successfully celebrated its Centenary in 2012. Patrons of this community, by their selfless service and dedication towards education, carved the future of many students in hundred years by establishing schools and colleges under Padmashali Shikshan Sanstha.

1.2 Statements of the Institution

Vision - To impart education to women which aims at Quality Education, Academic Excellence, Social Concern and Character Formation.

Mission - Empowerment of Women through Quality Education.

1.3 About the Institution

Seth Ramchandra Ramayya Burla was a successful textile businessman and manufacturer in Solapur. He pulled out all the stops to start senior college for the students hailed from Padmashali minority community. He is the donor of the many branches including Anusayabai Ramchandra Burla Mahila Mhavidyalaya.

He was aware of social commitment and closely associated with the important events of the institution as a well-wisher of Padmashali Education Institution. He donated his homes to start two schools and a college. Anusayabai Ramchandra Burla Mahila Varishtha Mahavidyalaya was inaugurated by former trustee and general secretary of the institute, Gangdharpant Kuchan.

The college imparts skill and career oriented education thorough short term and certificate courses. A large number of students are benefited by support services and inter - disciplinary activities provided by the college. The college also offers access to distance

mode of learning through the center of Yashwantrao Chavan Maharashtra Open University. The college has sound infrastructure, highly qualified and experienced teaching staff, number of support services and established tradition to provide quality education to the needy masses deprived of education.

The Motto of the College "To impart education to women which aims at Quality Education, Academic Excellence, Social Concern and Character Formation." **The Aim (Goals) of the College is as follows:**

1. To academically equip the minority students through the medium of higher education.
2. To inculcate basic human values and professional ethics.
3. To motivate students for innovation and creativity.
4. To nurture employability skills among the students.
5. To inculcate spirit of enquiry, scientific temper and research culture.
6. To foster students for academic integrity.
7. To encourage students for quest for excellence.
8. To promote students to use technology.

The Institution offers the following courses.

- **Bachelor of Arts (B.A.)**
- **Bachelor of Computer Applications (B.C.A.)**
- **Bachelor of Commerce (B.Com)**
- **Certificate Courses**
 - ⇒ Fashion designing
 - ⇒ Beauty parlour
 - ⇒ Small scale industries
 - ⇒ Value education and ethics
 - ⇒ Tourism
 - ⇒ Nursery development
 - ⇒ Tally with GST

- **Value Added Course**

⇒ Research Methodology

⇒ Professional ethics

The College works towards training young men and women to be competent, committed and compassionate, and lead in all walks of life. **It has the objective** "To Empower women through quality education."

1.4 The surrounding premises around the Institution

The Premises is situated amidst the landscape serene of **Solapur district of Maharashtra** with immense peace and calmness in the surroundings. There is a frontal approach which provides quite a beautiful appreciation space while approaching the premises; this area is surrounded by huge trees which positively complement the background-foreground aspect in terms of Natural space and built-form Architecture. It also provides ample shade which enhances the micro climate of the region. The location of College is feasible to the nearby essential amenities such as Public Health Center, Fire Station, Civic body-Public administrative buildings, Recreational gardens and Police Station which are not too close but nearby.

1.5 Assessment of the College

1.5.1 Affiliations

The College has all its courses approved and affiliated to **the Punyashlok Ahilyadevi Holkar Solapur University, Solapur, Maharashtra state.**

1.5.2 Certification

- **AISHE** – The code is C-15690.
- **NIRF** – The College has been participating in the NIRF rankings every year.
- **ISO** – The College is ISO 9001:2015 Certified.

1.5.3 Accreditation

NAAC - The following are details of the reaccreditation of the College.

Cycle	First	Second	Third
CGPA	-	2.62	2.76
Grade	B+	B	B++
Year	2004	2012	2017

Table 1: NAAC Accreditation details of the Institute

The College is due to enter its Fourth cycle of NAAC.

1.5.4 Recognitions

The College has achieved the following recognition from **University Grant Commission (UGC) under section 2 (f) and 12 (b) of the UGC Act by University Grants Commission, New Delhi.**

2. Institution overview

2.1 Populace analysis for Academic year 2021-2022

2.1.1 Students data

The student data (shared by the College) shows there were a total of **1,167 Girls students** in the premises.

2.1.2 Staff data

Type	Male	Female	Total
Admin Staff	04	01	05
Teaching Staff	09	06	15
Non-Teaching Staff	03	01	04
Total Staff Members	16	08	24

Table 2: Staff data of the Institution for 2021-2022

The staff data shows the premises had a total of **24** Staff Members.

2.2 Populace analysis for Academic year 2020-2021

2.2.1 Students data

The student data (shared by the College) shows there were a total of **1,170 Girls students** in the premises.

2.2.2 Staff data

Type	Male	Female	Total
Admin Staff	04	01	05
Teaching Staff	10	06	16
Non-Teaching Staff	03	01	04
Total Staff Members	17	08	25

Table 3: Staff data of the Institution for 2020-21

The staff data shows the premises had a total of **25** Staff Members.

2.3 Total College Area & College Building Spread Area

The **total site area is 1.10 Acres** and the **total Built-up area of College is 30,623 sq. ft. for a total of 1,191 footfalls.**

2.4 College Infrastructure

2.4.1 Establishment

The College was established in 1990. The college is located pretty close to nature and hence has very fresh environment which is absolutely pollution free and healthy. The Building is a Reinforced Cement Concrete (RCC) framework building. **Overall the Infrastructure of the Building is excellent in terms of the Architecture Design and Green Building Design. The Premises covers quite a few of the requirements for a Green Habitat.**

2.4.2 Spatial Organisation

The overall ambience of the College is warm and inviting. The classrooms and other spaces have ample natural ventilation in the form of clear glass windows with fresh air ventilation. The architecture of the building is quite well designed. The colour palette not just helps the building to stand out but also provides an Institutional arena. It balances with the local architecture with the natural landscapes of huge trees all around. The design emphasis on providing calmness to the built form and gradually merges with the serene landscape.

The floor to floor height is more than 10 feet. There is no provision for lifts in the premises, whereas there are amenities such as CCTV, Fire extinguishers, Library and first aid box.

2.4.3 Operation and maintenance of the premises

The interview session with the staff regarding the operation and working hours is summarized in the table. The Institution is open from Monday to Saturday. The detail wise timing for each is mentioned below.

S. No.	Section	Days	Time	Hours/ day	Days in a year
1	All Lectures	Monday to Saturday Except Holidays	7.30 am to 12.30 pm	5	280
2	Library Hours	Monday to Saturday Except Holidays	8 am to 5 pm	9	300
3	Administration	Monday to Saturday Except Holidays	10 am to 5 pm	7	300

Table 4: Schedule of the timings of the premises

3. Green Building Study Audit

3.1 About the Green Building Study Audit

It is a systematic study of the aspects which make the Institution a sustainable and healthy premises for its inhabitants.

3.2 Analysis for the Green Building Study Audit

The procedure included detailed verification for the following:

Energy Audit

- Analysis of the Lights, Fans, AC, Equipment
- Renewable energy
- Scope for reducing the current energy bills if any
- Improvement in the thermal comfort of the campus

Green Audit

- Green initiatives
- Hygiene audit
- Water Audit - Analysis of the current water consumption of campus; Scope to include Rain water harvesting and Waste water treatment in premises
- Waste Audit - Current waste produced, its segregation and usage; Strategies to be adopted for waste management and awareness

Environmental Audit

- Analysis of the current landscape + hardscape of campus
- Analysis of the flora and fauna of campus
- Strategies adopted at present to enhance vegetation
- Measures that can be adopted for ecological improvement of the premises.

3.3 Strategy adopted for Green Building Study Audit

The strategies included data collection from admin department, actual inventory, investigation to check the operation and maintenance, analysis of the data collected and preparation of the Report.

3.4 Timeline of the activities for Green Building Study Audit

- | | |
|------------------|---|
| • 10 March 2022 | – Allotment and Initiation by the College |
| • 12 March 2022 | – Induction Meeting |
| • 19 August 2022 | – Data submitted by College |
| • 23 August 2022 | – Survey of the Student and staff submitted |
| • 26 August 2022 | – Site visit at the premises |
| • 26 August 2022 | – Submission of the report |

On-site investigation and physical verification
Audit Team during the visit on 26 August 2022



Discussion at the rainwater harvesting and proposed garden area



On-site review with the Team



On-site discussion with the Team

4. Energy Audit

4.1 Sources of Energy consumption

- ⇒ **Electrical (Metered)** – Light, Fans, Equipments, Pumps comprise the primary sources.
- ⇒ **Renewable energy** – There are solar street lights available in the premises

4.2 Site investigation analysis

The Site investigation observations and interviews with the Maintenance staff, Electrical department in charge are summarised below:

- The **switch-off drills are practised at present**, the maintenance staff and Lab Attendants put off switches of all equipments regularly.
- All the **computers are shut-off after use** and also put on power saving mode.
- There are **display boards encouraging staff and students to save energy are put up in the classrooms and laboratories**.
- There are **Ultra-violet lights used only in the scientific labs for experiment purpose, apart from these any other harmful lights used** in the premise.

4.3 Actual Electrical Consumption as per Bills

The admin department had shared the bills for Meter which is connected to all Buildings and is main source of energy supply. The supplier is Maharashtra State Electricity Distribution Company Limited. The analysis of actual electrical energy consumption is summarised below. The details of unit consumption meter wise is as follows.

No.	Year	Month	Units Consumed	Amount
1	June 20 to May 21	Jun-20	0	0
2		Jul-20	0	0
3		Aug-20	2274	25360
4		Sep-20	603	7610

5		Oct-20	566	6570
6		Nov-20	455	5390
7		Dec-20	433	5140
8		Jan-21	477	5660
9		Feb-21	569	6660
10		Mar-21	765	8750
11		Apr-21	529	5240
12		May-21	475	5470
		Total	7146	81850
No.	Year	Month	Units Consumed	Amount
1	June 21 to May 22	Jun-21	617	6950
2		Jul-21	643	7230
3		Aug-21	611	6950
4		Sep-21	601	6790
5		Oct-21	674	7550
6		Nov-21	477	5530
7		Dec-21	574	6550
8		Jan-22	412	4810
9		Feb-22	413	4820
10		Mar-22	850	9590
11		Apr-22	558	5680
12		May-22	558	6390
		Total	6988	78840

Table 5: Study of the electricity consumption of the meters in premise

The summary of the above study shows the average consumption varies for each month.

4.4 Survey Results

An online survey was conducted to analyse the student and staff views about the Energy management practices adopted in College, following is the result received.

4.4.1 Participation

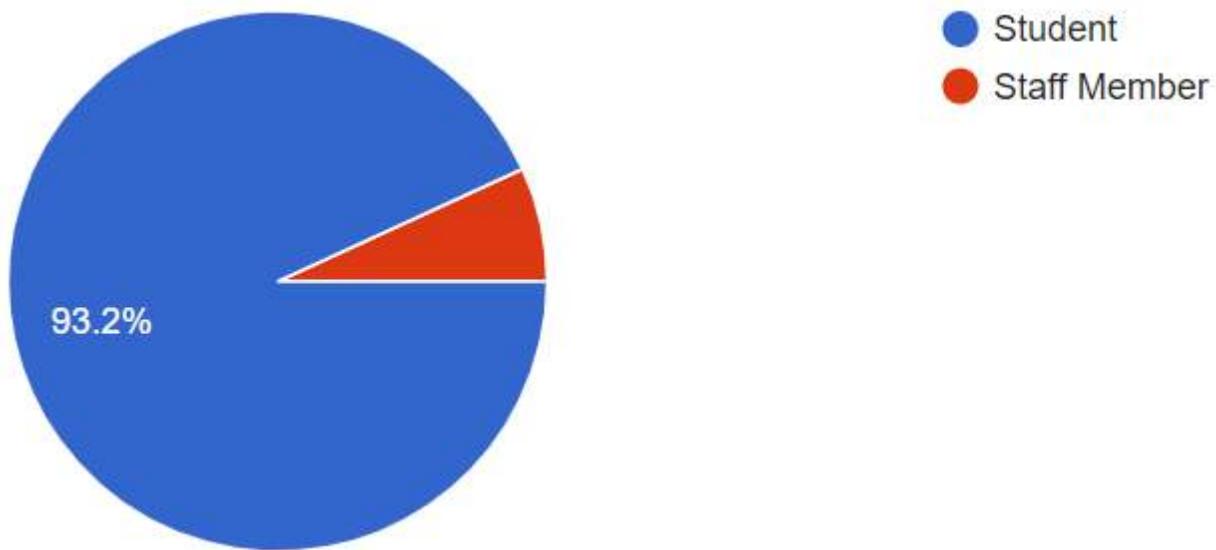


Figure 1: Participation analysis in the survey

A total of **117 responses** were received out of which 93% were students.

4.4.2 Review of the Energy management practices in the premises

Note: The Participants were asked to review the practice on a scale of 1-5 with scale components as follows:

- Scale 1 – Poor
- Scale 2 – Satisfactory
- Scale 3 – Good
- Scale 4 – Very good
- Scale 5 – Excellent

The figures in each of the columns of graph depict the Number of participants responses in numerical (Percentage of the participant response) – For example 101 responses (44.5%)

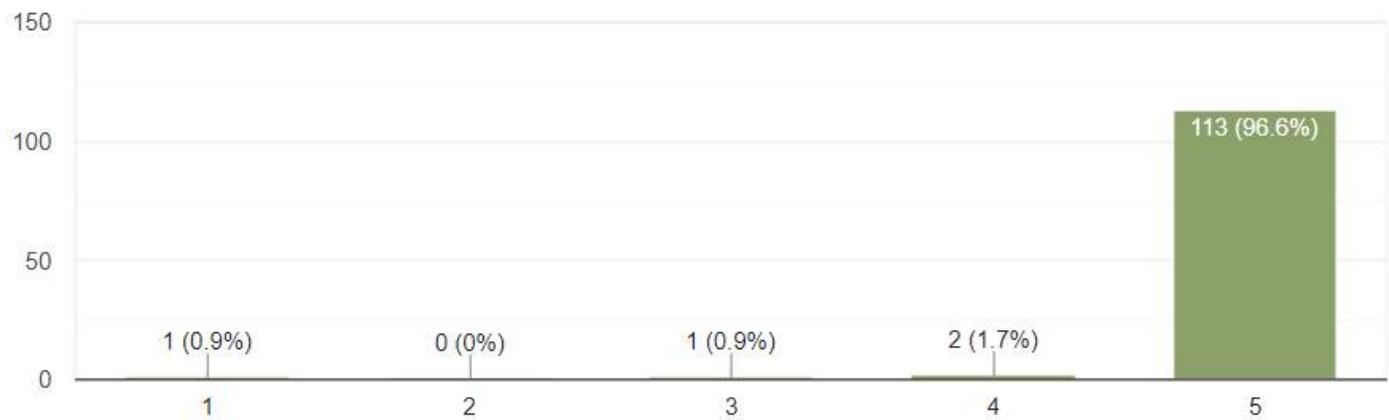


Figure 2: Energy management practices in college

The students, staff **(almost 97%)** of the responses found the practices to be excellent (rating 5) and 2% of the responses found practices to be very good (rating 4).

4.5 Calculated Electrical Consumption as per inventory

The electricity bills provide actual consumption data. The following is the calculated consumption. It is done to understand the percentage of energy usage in the premises by various applications. It is based on the inventory collected and interviews with the staff. The additional data such as wattage is taken from market research. In terms of electrical consumption, the main sources are lights, fans, ac, equipment. The inventory and data collection for sources of energy consumed in the premise is summarised in the following sections. Note: The following analysis is combined for entire premise taking into considerations the duration before pandemic to understand the consumption pattern as post pandemic the premise is used only for a few hours.

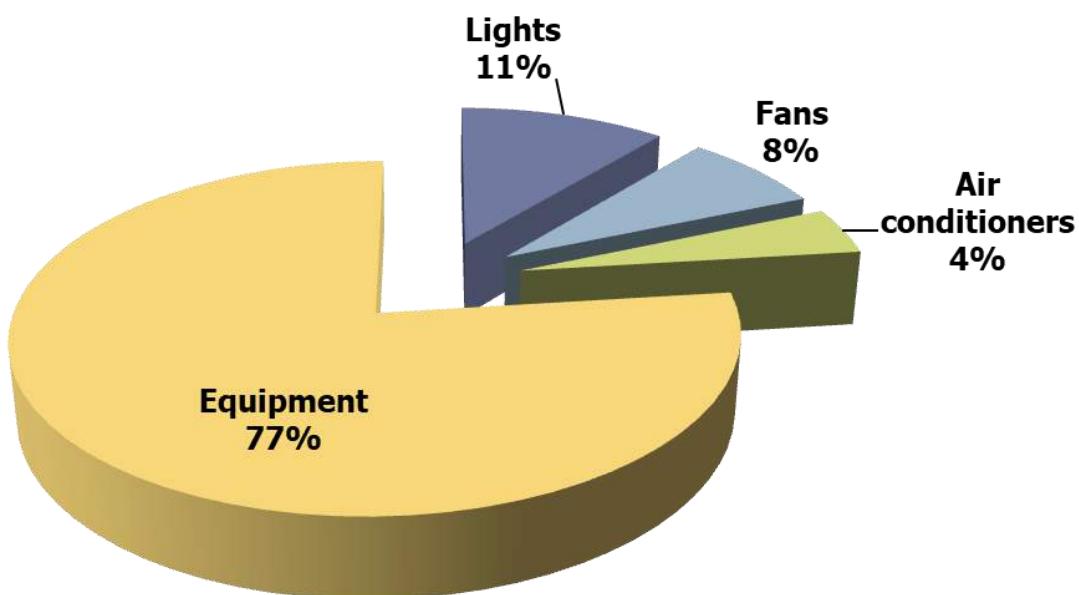


Figure 3: Summary of the calculated electrical consumption as per inventory

The above graph shows that Equipment consumes 77% followed by lights at 11% whereas the fans consume 8% and the air-conditioners consume 4% of the total calculated electrical energy.

4.6 Lights

4.6.1 Types of lights based on the numbers

There are a total of **95 lights in the premises**; the following table shows the various types of lights in the premises.

S. No.	Type	Nos.
1	LED	66
2	Non-LED	29

Table 6: Summary of the types of lights in premise

4.6.2 Types of lights based on the power consumption

The following graph shows the type of lights.

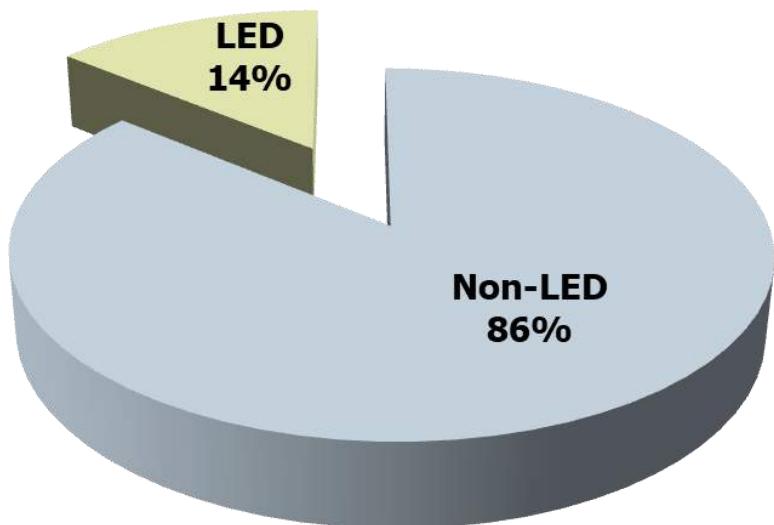


Figure 4: Energy consumed by types of lights in the premise based on the usage study

The analysis of the types of Lights in premises shows **Non-LED lights 86%** followed by **LED lights consuming 14%**

4.6.3 Floor-wise consumption analysis

The energy consumption of Lights is **5,719 kWh** of energy; the following graph shows the floor wise consumption.

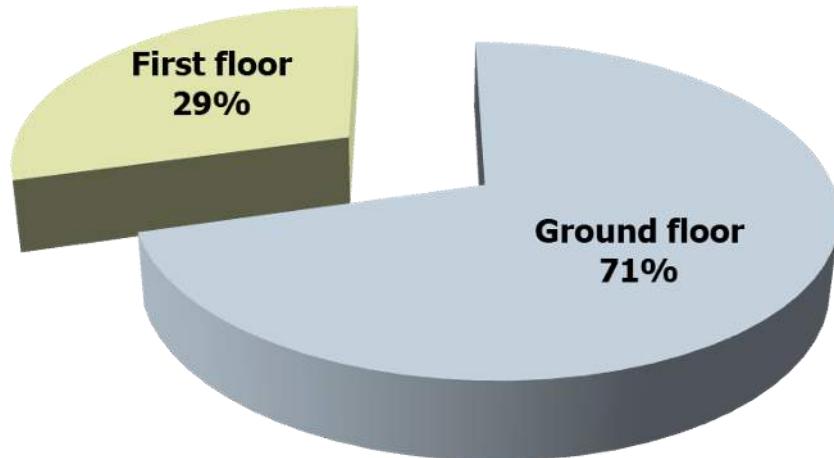


Figure 5: Energy consumed by lights floor wise

The above analysis shows the lights in the **Ground floor consume 71%**; the ones in **First floor consume 29%** (The general areas are considered together) of the total power consumed by lights.

4.6.4 Requirement of NAAC

4.6.4.1 Alternative Energy Initiative

Percentage of power requirement met by renewable energy sources – There are no solar panels at present in the premises.

4.6.4.2 Percentage of lighting power requirement met through LED bulbs

The premise has LED Lights contribute to 31% in terms of number and **14% of the power requirement** is met through the same. As per our study we could conclude that both of these numbers should improve.

4.6.5 Site investigation observations

Some of the points noticed are as follows:

1. All lights are in working conditions
2. Daily monitoring and check is done by the maintenance staff.
3. There was no fuse defect observed.

4.7 Fans

4.7.1 Types of fans based on the numbers

There are a total of **73 ceiling fans** in the premises.

4.7.2 Floor-wise consumption analysis

The energy consumption of fans is **3,942 kWh** of energy; the following graph shows the floor wise consumption.

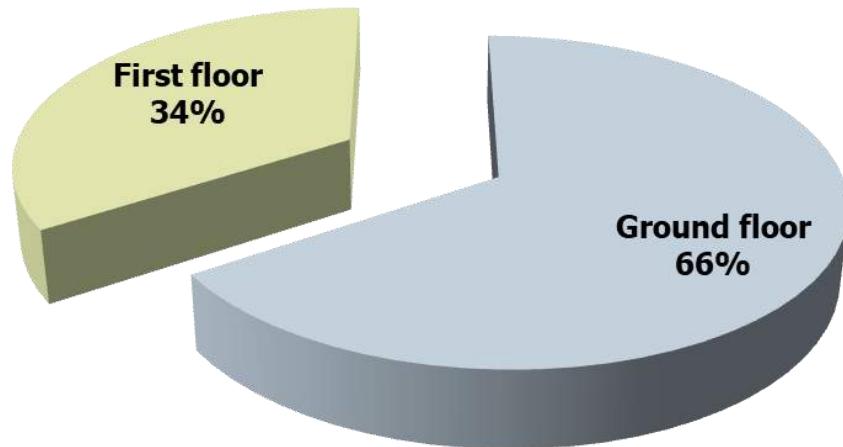


Figure 6: Energy consumed by fans floor wise

The above analysis shows the fans in the **Ground floor consume 66%** and the ones in **First floor consume 34%** of the total power consumed by fans.

4.7.3 Site investigation observations

Some of the points noticed are as follows:

1. All fans are in working conditions
2. Daily monitoring and check is done by the maintenance staff and admin staff in an excellent manner.

4.8 Air conditioners

4.8.1 Types of air conditioners based on the numbers

There is **only 1 air conditioner** on the entire premises.

4.8.2 Floor-wise consumption analysis

The energy consumption of air conditioners is **2,312 kWh** of energy, it is located on the Ground floor.

4.8.3 Site investigation observations

Some of the points noticed are as follows:

1. Daily monitoring and check are done by the maintenance staff and admin staff skillfully.
2. The Outdoor units were not properly cleaned and maintained and had dust collection problems.

4.8.4 About the replacement of current air conditioners

The current air conditioners are well maintained, though there is not an immediate requirement for replacement however, whenever the college undergoes redevelopment or a new floor is constructed there can be provisions for replacement with energy-efficient appliances or new air conditioners that require less power consumption.

4.9 Equipment

4.9.1 Types of Equipment

There are **16 types of equipment totalling to 108** in the premises as follows:

S. No.	Name	Nos.
1	RO Plant	1
2	Projector	9
3	Desktop Computer	47
4	Water motor starter	2
5	Wifi router	3
6	Printer	7
7	Scanner	3
8	Water cooler	1
9	Xerox Machine	1
10	TV	2
11	Sanitary vending machine	1
12	Intercom	6
13	HUB	1
14	BioMetric	1
15	Speakers	7
16	CCTV Cameras	16

Table 7: Types of equipment in the premise as per the quantity

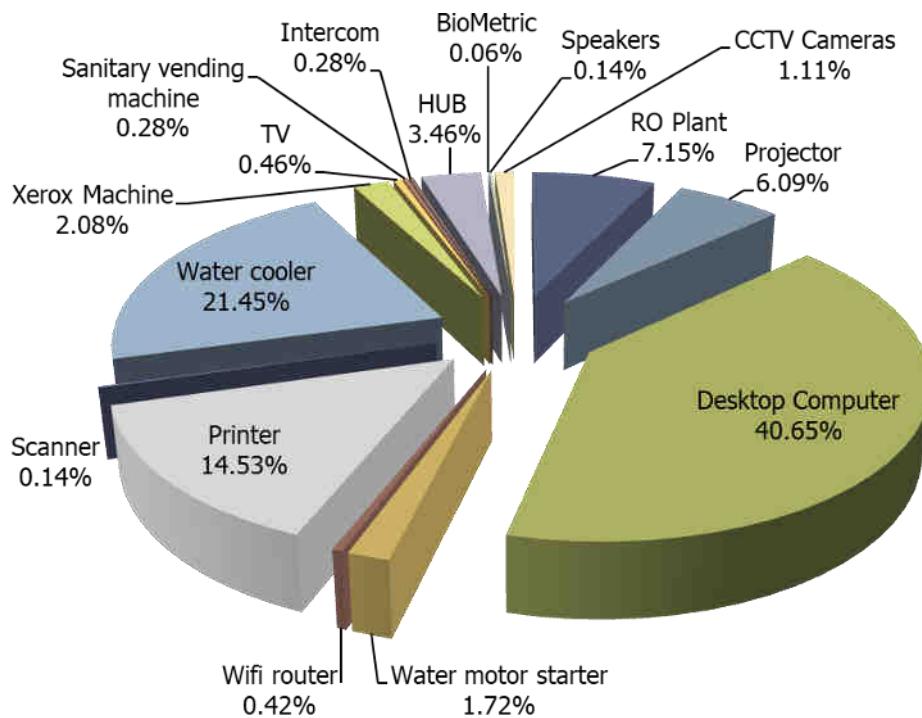


Figure 7: Summary of Energy consumed by equipment in the premises

The above summary shows that **desktop computer consumes more energy at 40.65%** while **water cooler consumes 21.45%** and the **printer consumes 14.53%** these are maximum consumers as compared to other equipment. UPS and Inverter (when used for electrical consumption else it is a battery backup and does not require electricity as an equipment) are also one of the equipment but are excluded in this calculation.

4.9.2 Site investigation observations

Some of the points noticed are as follows:

1. All equipments are in working conditions and daily monitoring and check is done by the maintenance staff and admin staff in an excellent manner.
2. No defect was found in any equipment of electrical consumption.

4.10 Recommendations for a Sustainable Habitat

Over the time energy efficient appliances have been a boon not only to the energy saving parameters they adhere to but also the eco-friendly habits it helps to inculcate. The Institution such as Schools and Colleges are the best way to implement these initiatives. It creates awareness among the students at a young age. The Institutions also act as a symbol and representative of being an energy efficient premise.

Following the analysis we found are some of the suggestions which can be implemented for an energy efficient Institution. This would help in reduction of the current electrical consumption by a major percentage.

4.9.1 Electromechanical systems - Electrical and Lighting

Section 1 - Lights

Non-LED lights

The current light analysis shows that Non-LED tube lights consume anywhere between 24W, 36W and 40W when in use; similarly the CFL lights consume more than 25 to 28W when in use; these should be replaced with LED lights which consume on an average 16-20W when in use.

Our technical analysis shows that there would be a reduction of an average of **63% reduction** in energy consumption through lights specifically as a part of the electro - mechanical system if all **Non-LED lights on all floors** are replaced with an energy efficient appliance whenever the college undergoes renovation.

Section 2 - Fans

Ceiling fans

The current Fans are in proper working conditions and maintained well. The ceiling fans are in more quantity and consume at least 45W when in use. These should be replaced with energy efficient fans consuming 14W when in use. Our detailed study states that is all the **ceiling fans on all floors** if replaced with star rated appliance results in a reduction of average of **69% reduction** in energy consumption if replaced with energy efficient appliance. It will be suggested to either replace these now if college can have certain plans else the replacement can be done when fans get damaged or are not in working condition.

Section 3 - Equipment

Desktop computers to laptops

Among all equipment it suggested to replace the desktop computers with laptops as this would be energy efficient. A normal desktop computer consumes on an average 250W and it is to be connected all time when it has to be used. On the contrary a laptop consumes 40W and has a battery backup which lasts up to 4 hours.

There is **an average 84% reduction** in energy consumption if replaced with energy efficient appliance which is a laptop in all the areas of Educational and Residential areas.

This replacement is however is dependent on a variety of factors as follows.

- Some of the senior staff members may be more convenient with computers, replacement with laptop might result in a change of the working patterns and hours which may affect the productivity.
- Laptops – in case are not handled with care such as if dropped unintentionally might result in data imbalance.
- Students who are not day scholars can use laptop as per their own convenience, whereas in common areas there can a monitoring about the usage hours hence computers may be a preferable option then laptop in certain spaces.
- Similarly depending on the pandemic situation in case it might be possible due to irregular usage the device might have issues while functioning.

Thus the University should analyse the above points and then devise a strategy about the replacement, essentially when the devices get damaged or are not in working condition they can surely be replaced.

As well as once they are not in working condition the proposed strategy should be linked towards e-waste management as well.

On-site investigation and physical verification

Energy consumption practices in the premises



5. Towards a Healthy & Sustainable Institution

5.1 Inputs by Greenvio Solutions

Based on the analysis of the study of premises in addition to the recommendations provided in each section of Ecological, Water, Waste and Energy Audit the College can adopt the following strategies towards a Healthy and Sustainable Institution practices.

- a) Cutlery in the Canteen** – The regular plastic and steel plates, spoons used in Canteen can be replaced with eco-friendly and organic leaves, paper straw, disposable plates, edible spoons and tables made out of sugarcane waste or bamboo. This will be first of its kind initiative to be adopted and practiced thus also inculcating the healthy practices in students.
- b) Additional fire safety** - Measures such as Hose reel, signages, fire-fighting tank, fire alarm and sprinkler system should be adopted.
- c) Signages** – In addition to the signages being in regular language there can be additional signages in braille language for the especially abled students.

5.2 Survey Results

An online survey was conducted to analyse the student and staff views about what changes according to you can be undertaken for Green audit improvement in College premise and activity.

Some of the suggestions by the Students and staff are listed below:

- Ozone park
- Advocate the college initiative to encourage students to respect environment and conserve it through plantations.
- Special campaigns for students
- Creating eco-friendly rules in the premises.

However, it should be noted that the College has taken up multiple initiatives and because of Pandemic the students have not practically visited the premises so many of these points are not mandatory at the moment.

6. References

1. Uniform Plumbing Code – India, 2008
2. IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
3. IGBC Green Landscape Rating system, March 2013
4. BOMA Canada Waste Auditing Guide, Best Environmental Standards, BOMA BEST – Canada
5. Used only for understanding Universal design - Universal accessibility Guidelines for Pedestrian, Non-motorized vehicle and Public Transport Infrastructure – Report guidelines by Samarthyam (National centre for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation.



CRITERION VII

GEO TAG PHOTOS



On-site investigation and physical verification

Energy consumption practices in the premises



On-site investigation and physical verification

The ecologically friendly ambience with facilities such as open spaces, lifts and gardens



Shaded parking and nursery provisions



Plantations in the premises



Open spaces and ramp facility

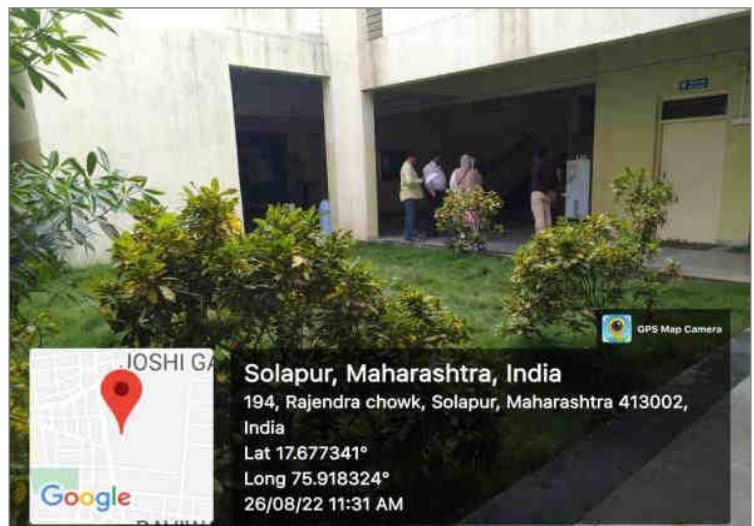
On-site investigation and physical verification
Audit Team during the visit on 26 August 2022



Discussion at the rainwater harvesting and proposed garden area



On-site review with the Team



On-site discussion with the Team

CRITERION VII

AWARDS





हरित मित्र परिवार आणि गुरुकृपा संस्था



यांच्या वतीने



सन्माननीय

प्रा. डॉ. तुकाराम शिंदे

ए. आर. बुर्ला महिला महाविद्यालय, सोलापूर

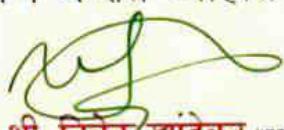
पर्यावरण तसेच अन्य क्षेत्रांमध्ये

भारत देश, भारतीय समाज आणि निसर्ग यांच्या हितार्थ दिलेल्या

प्रांजळ, सक्रिय आणि भरीव योगदानाबद्दल

सहकारमहर्षी भाऊसाहेब संतुजी थोरात
पर्यावरण संवर्धन पुरस्कार

आम्ही अत्यंत आदरपूर्वक, कृतज्ञतापूर्वक आणि हर्षपूर्वक
अर्पण करीत आहोत.



मा. श्री. यशवंतराव मानोहर देशपांडे (IFS)

अपर प्रधान मुख्य वनसंरक्षक
(सामाजिक वनीकरण, महाराष्ट्र राज्य)

मा. श्री. यशवंतराव मानोहर देशपांडे

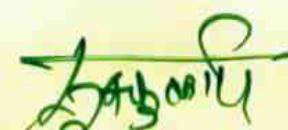
डेप्युटी डायरेक्टर,
नेहरु युवा केंद्र, भारत सरकार, मंत्री

मा. श्री. यशवंतराव मानोहर देशपांडे

डॉ. महेंद्र घागरे

अध्यक्ष

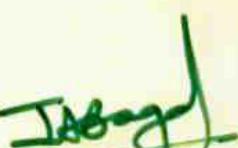
हरित मित्र परिवार



मा. श्री. सुनील बन्धुरामनी फुलारी

इन्सपेक्टर जनरल ऑफ पोलिस, कोल्हापूर परिक्षेत्र

स्थळ : पुणे शहर
शुक्रवार, दिनांक २४-०२-२०२३



मा. श्री. इंद्रजित वागल (IBS)

कार्यक्रम प्रमुख
(दूरदर्शन एवं आकाशवाणी, पुणे, भारत सरकार)

मा. श्री. इंद्रजित वागल

पुणे कार्यवाह
गुरुकृपा संस्था



Shot on OnePlus
Powered by Quad Camera

सहकार महार्षी भाऊ साहेब संतुजी थोरात

पर्यावरण संदर्भ पुस्टकार्ड

नन्दानाथ

प्रा. डॉ. नन्दानाथ शिंदे

ए. भर. चुनो मंडिला भास्कर वालन्द, शालापार

प्रावित नाम नन्दानाथ शिंदे

भास्कर वालन्द नन्दानाथ शिंदे विद्यालय, नन्दानाथ विद्यालय

नन्दानाथ विद्यालय, नन्दानाथ विद्यालय

नन्दानाथ विद्यालय, नन्दानाथ विद्यालय

नन्दानाथ विद्यालय

नन्दानाथ विद्यालय, नन्दानाथ विद्यालय

Shot on OnePlus
Powered by Quad Camera

CRITERION VII

GREEN CAMPUS INITIATIVES



पद्मशाली शिक्षण संस्था संचालित,
अ. आर. बुर्ला महिला वरिष्ठ महाविद्यालय, सोलापूर
राष्ट्रीय सेवा योजना विभाग

R. Bura Mahi
A
V. S



दि. ६ जुलै २०१७

०९



बुल्ला महिला महाविद्यालयाकडून कर्देहळ्यांची येथे वृक्षारोपण

✓ सोलापूर : पद्मशाली शिक्षण संस्था संचलित अ.आर.बुल्ला महिला महाविद्यालयातील राष्ट्रीय सेवा योजना विभागाकडून दत्तक गाव कर्देहळ्यां (ता.द.सोलापूर) येथे वृक्षारोपण करण्यात आले.

महाराष्ट्र शासन वनविभागाकडून वनमहोत्सवाच्या निमित्ताने १ जुलै ते ७ जुलै दरम्यान राज्यभर दोन कोटी वृक्षांची लागवड करण्याची मोहीम हाती येतली आहे. या मोहिमेतर्गत कर्देहळ्यांची वृक्षारोपण करण्यात आले. या वृक्षारोपण मोहिमेतर्गत महाविद्यालयातील राष्ट्रीय सेवा योजनेच्या १०० रव्यांसेविका सहभागी झाल्या होत्या. त्याचबरोबर यावेळी गावचे सरपंच जगड्हाथ कोळी, उपसरपंच दीपक सावंत, रा.से.यो.चे.कार्यक्रम अधिकारी डॉ. राजेंद्र वडजे, डॉ.रजनी दलवी, ग्रामसेवक तोळपुरे, मुख्याध्यापिका तोगरे, अंबादास कोळी, नरसिंग पौळ, रोहिदास पवार, विश्वनाथ पौळ, हरतगीर मुकला, जनार्दन बाळशंकर आणि बबलू कोळी आदी मान्यवर 'उपरिथित होते.

सोलापूर, सोमवार २५ डिसेंबर २०१७

सोलापूर

‘बुला’चे कर्देहळळीत श्रमसंस्कार शिविर

शहर संचार

■ सोलापूर, दि. २४- पदाशाली शिक्षण संस्था संचलित ए. आर. बुला महिला महाविद्यालयातील राष्ट्रीय सेवा योजनेचे विशेष श्रमसंस्कार शिविर दत्तक खेडे कर्देहळळी (ता. दक्षिण सोलापूर) येथे २८ डिसेंबर ते ३ जानेवारी २०१८ दरम्यान आयोजिले आहे.

आपत्ती निवारण व व्यवस्थापनातील युवतींची भूमिका हे यंदाच्या शिविराचे घोषवाक्य असून या शिविराचे उद्घाटन २८ रोजी संस्थेचे उपाध्यक्ष ॲड. श्रीनिवास क्यातम यांच्या हस्ते व प्राचार्य डॉ. राजेंद्र शेंडगे यांच्या अध्यक्षतेखाली होणार आहे. याप्रसंगी संस्थेचे अध्यक्ष पांडुरंग

गुरुवारी प्रारंभ तर ३ जानेवारीला समाप्तीप

दिद्दी, सरपंच जगन्नाथ कोळी, उपसरपंच दीपक सावंत यांची प्रमुख उपस्थिती राहणार आहे.

२९ रोजी ॲड. अश्विन बोंदांडे यांचे शिक्षण हक्क कायदा जनजागृती यावर तर ३० रोजी ॲड. टी. व्ही. शिंदे यांचे आपत्ती व्यवस्थापनावर मार्गदर्शन होणार आहे. ३१ रोजी महिला सबलीकरणाविषयी ॲड. श्रुती वडगवाळकर यांचे तर १ जानेवारी रोजी सचिन जाधव यांचे स्वच्छ भारत अभियान यावर मार्गदर्शन होणार आहे. २ रोजी ॲड. शिवानंद भांजे हे ‘सर्वांगीण ग्रामीण विकास’ यावर मार्गदर्शन करणार आहेत.

या शिविरादरम्यान शेतकरी मेलावा, मोफत आरोग्य तपासणी व रक्तदान शिविर, महिला व युवतीं मेलावा तसेच शरद पोतदार यांचा संगीतरजनी सांस्कृतिक कार्यक्रमाची घेण्यात येणार आहे. ३ रोजी संस्थेचे सचिव दशरथ गोप, सहसचिव श्रीधर चिट्याल, खजिनदार दिनेश यन्नम यांच्या प्रमुख उपस्थितीत या शिविराचा समाप्तीप करण्यात येणार आहे. राष्ट्रीय सेवा योजनेचे कार्यक्रमाधिकारी ॲड. आर. के. वडजे, ॲड. रजनी दलवी आदी हे शिविर यशस्वी करण्यासाठी परिश्रम घेत आहेत.

सोलापूर, गुरुवार १४ डिसेंबर २०१७



सोलापूर : बुला महाविद्यालयातर्फे आयोजित स्वच्छता रॅलीत सहभागी विद्यार्थिनी.

बुला महाविद्यालयातर्फे रॅली संपन्न

शहर संचार

► सोलापूर, दि. १३-पद्यशाली शिक्षण संस्था संचलित ए. आर. बुला महिला महाविद्यालयातर्फे स्वच्छता रॅली अपूर्व उत्साहात काढण्यात आली. महाविद्यालयातील राष्ट्रीय सेवा योजना विभागाच्यावतीने या रॅलीचे

आयोजन करण्यात आले होते.

प्रारंभी या रॅलीचे उद्घाटन महाविद्यालयाचे प्राचार्य डॉ. राजेंद्र शेंडगे यांच्या हस्ते करण्यात आले. यावेळी ही रॅली पुढे राजेंद्र चौक, कना चौक, साखर पेठ, विणकर बाग आदी भागातून काढण्यात आली. रॅलीत सहभागी विद्यार्थिनींनी

नागरिकांना आपले घर व परिसर स्वच्छ ठेवण्याचे व प्लॅस्टिकचा वापर टाळण्याचे आवाहन केले.

ही रॅली यरस्वी करण्यासाठी या महाविद्यालयातील डॉ. रजनी दळवी, डॉ. तुकाराम शिंदे, डॉ. टी. एन. शिंदे, प्रा. अश्विनी राऊत आदीनी परिश्रम घेतले.