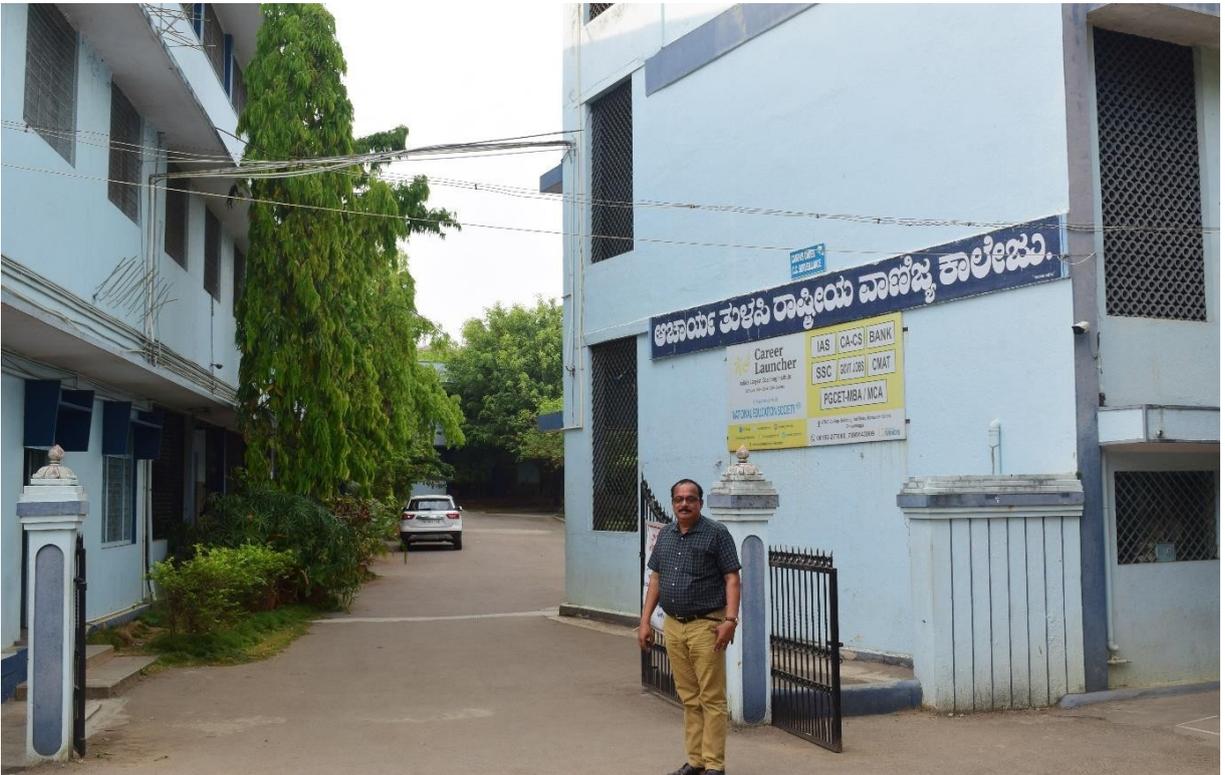


GREEN AUDIT REPORT

2021-22



**National Education Society. (R) ,
Acharya Tulsi National College of Commerce,
Balaraj Urs Rd, Tank Mohalla, Shivamogga, Karnataka
577201**

Green audit assessment team.

Internal team.

1. Prof. H. M. Suresha., Principal, ATNCC Shimoga.
2. Prof. Kazim Shariff, IQAC Coordinator.
3. Prof. R.L Prakash Babu, HOD English Department.
4. Prof. S Jagadeesh, NSS Coordinator.
5. K.M Nagaraj, NSS Coordinator.
6. Ms. Rashmi., Faculty, ATNCC Shimoga.

External team.

1. Prof. J. Narayan, Professor, Dept. of Environmental Science, Kuvempu University, Shankarghatta-577451
2. Dr. Manjunath S. Faculty, Sahyadri Science College, Shimoga.

NATIONAL EDUCATION SOCIETY (R.), SHIVAMOGGA

ACHARYA TULSI NATIONAL COLLEGE OF COMMERCE*"College with Potential for Excellence"***ಆಚಾರ್ಯ ತುಳಸಿ ರಾಷ್ಟ್ರೀಯ ವಾಣಿಜ್ಯ ಕಾಲೇಜು, ಶಿವಮೊಗ್ಗ****Affiliated to Kuvempu University
Accredited by NAAC with 'B' Grade**

Ref. No.: A.T.N.C.C.: /

Date:

**Foreword from Principal**

As a part of Green Audit in ATNCC, Shimoga to record, document, analyse and report the diverse environmental aspects which are adopted in the campus. This will help us in management of our Environmental quality, improve environmental protection and sustainable development practices in various path.

I am very happy to foreword this Green Audit Report, which compiled the data of 5 years (2016-2021) with the terms of the Standards of Internal Auditing, 2021-22 of ATNCC, Shimoga. It is my pleasure to recognize the efforts of the of the Green Audit committee led by Prof. J Narayan, Coordinator, Green Audit, for their frame work in preparing this report. I do hope that the Green Audit Report 2021-22 will guide all the faculties of ATNCC to define themselves in their future activities and will motivate all to put green steps ahead in future.

Prof. H. M. Suresha

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the Green Audit Report 2021-22 of Acharya Tulsi National College of Commerce, Shimoga is an original internal audit work conducted by the Green Audit Committee to monitor the environmental management practices adopted in the Campus which compiled the data of 5 years (2016-2021) with the terms of the Standards of Internal Auditing.

After going through the report, it is obvious that adequate and appropriate audit procedures were followed for Environmental Quality Audit, Water Audit, Waste Disposal Audit, Energy Audit and Biodiversity Audit, and the gathered evidences support the conclusions reached and contained in this report.

The suggestions and recommendations prescribed and the conclusions derived are quite genuine and within the achievable limits, and I understand that ATNCC, Shimoga is competent to fulfil those to meet the Sustainable Development Goals.

I recommend and firmly believe that this report meets the requirement prescribed for development of a Green Campus.



Prof. J Narayan
(Coordinator, Green Audit)

Dr. J. NARAYANA, M.Sc., Ph.D.,
Professor
Department of P.G. Studies & Research in
Environmental Science, Kuvempu University
Jyene Sahyadri, Shankarghatta-577 451.

Contents

Sl No	Content	Page No.
1	Introduction	
2	About the College and Vision	
3	Objectives	
4	Audit Report : a) Land Use System b) Geographical system c) Biodiversity Status d) Water Resource and Management e) Energy Consumption and Management f) Waste Disposal and Management g) Environmental Awareness	
5	Recommendations	

Introduction:

The rapid environmental degradation at local, regional and global level is leading us to global “Environmental poverty”. Stabilization of human population, adoption of environmentally sound and sustainable technologies, reforestation and ecological restoration are crucial elements in creating an equitable and sustainable future for all humans in harmony with nature and natural resources. The main objective to carry out green audit is to check green practices followed by universities and to conduct a well formulated audit report to understand where we stand on a scale of environmental soundness. Green audit is the procedure of systematically identifying, quantifying, recordings, reporting and analyzing the environmental diversity components of any organization. It aims to analyze the environmental practices inside and outside of the relevant place, which will have an impact on the environment. Focus was given to assess the consumption of energy, electricity, water as well as disposal of liquid waste, solid waste, hazardous waste, e-waste and an inventory of trees on campus is also prepared to check how much CO₂ is sequestered and O₂ is released. It is an important tool for universities to determine their consumption of energy, water, or other resources; and then consider and planned to implement changes and make savings. It can create health awareness and promote environmental awareness and ethics. It allows faculty, students and other staff to better understand the impacts of green activities on the premises.

About the College and Vision

Founded in 1966 by NES, ATNCC has been training and imparting education in commerce and management at the undergraduate level. The college has responded well to the sweeping changes that are ushered in by globalization, liberation and privatization by enabling the students to build up their career. B. B. A degree course which was started in 1974 has been preparing promising managers. The college provides a separate and spacious room for each class and section. Adjacent to the main building is the library housed in a two storied building. As on date, the college library has 38,5000 volumes on its accession, internet facility, audio-visual and video cassettes, CD’s overhead and slide projectors and finally, an LCD to supplement and strengthen the learning abilities of the students. An exclusive computer lab with 100 computer and internet facility for quality computer education has been housed on the

top floor of the main building. A health centre on the ground floor is housed to take care of the health requirements of the student community.

All round development, service mindedness, sacrifice, discipline and character are nurtured in NSS and NCC and Sports. The college boasts of many excellent sportsmen, NCC Cadets, NSS Volunteers both at the university and national level. The college owes its development to the dedicated teaching and non-teaching faculty, and the vision of the members of the NES who work in harmony and unison. The college is affiliated to Kuvempu University and is recognized by Government of Karnataka. We feel proud to reiterate that our college is Re-accredited by National Assessment and Accreditation Council at the “B” Grade level.

Vision and mission

Our vision is commitment to pursue excellence and highest goals of commerce and Management Education, to transform students in to national assets, capable of generating national wealth and to pursue national objectives of integrity of character, patriotism, sacrifice and moral and ethical uprightness.

Mission.

- To be a lead institution of par excellence in Commerce and Management area.
- To prepare job creators and not job seekers.
- To prepare students for global challenges and the consequent societal transformation.
- To instil qualities of integrity, patriotism and international outlook.
- To sow the seeds of research abilities, a dispassionate mind and skills of conducting surveys and project work.
- Promoting and facilitating education in conformity with the statutory and regulatory requirements.
- Planning and establishing necessary infrastructure and learning resources.
- Supporting faculty development programmes and continuing education programmes.
- Initiating and sustaining meaningful research activity.
- Promoting institution industry interaction and collaboration at all levels.
- Ensuring harmonious and mutually rewarding relationships among all stakeholders of the institution

Scope of Green Auditing:

Government of India through its National Environment Policy in 2006 has made mandatory for every organization to conduct green audit / environmental audit in order to ensure a clean and healthy environment within and outside the organization. Further, it also helps in effective learning and provides a conducive learning environment. Efforts are taking place around the world in order to address various environmental issues. Green auditing or environmental auditing is one among them for educational institutions. Green auditing helps organization to understand various environmental issues of the organization and identify existing lacuna or gap towards meeting the objective of National Environmental Policy and thus, to plan accordingly.

Methodology:

Collection of data, observation and interaction: This Audit involved the activities relating to collection of data, observation, interactions and discussion with the concerned bodies i.e., faculty, administration and staff members from different departments and sections of the college. A mixture of open ended and closed ended questionnaires were developed and used for data collection. Meetings with specific departments of different target groups and audit stage were conducted for getting the desired information. Detailed discussions on some specific topic were also held.

Inspection of departments/various sites: The audit team also visited the various departments, sections, offices and its premises in order to have an idea of various activities carried. Campus greenery and gaps were identified. Team also had a visit to play ground, canteen, library, office rooms and parking area.

The stakeholders: The stakeholders included were teaching staff from different schools, people from administration, water supply and maintenance, electricity department and ICT. The committee set up for the purpose discussed the issues related with key target areas. Questionnaires were prepared for getting information and accordingly meeting with concerned stakeholders were conducted. Data on water and energy use was collected from maintenance department.

Audit stage involved the identification of target areas for environmental auditing. Accordingly following target areas were identified:

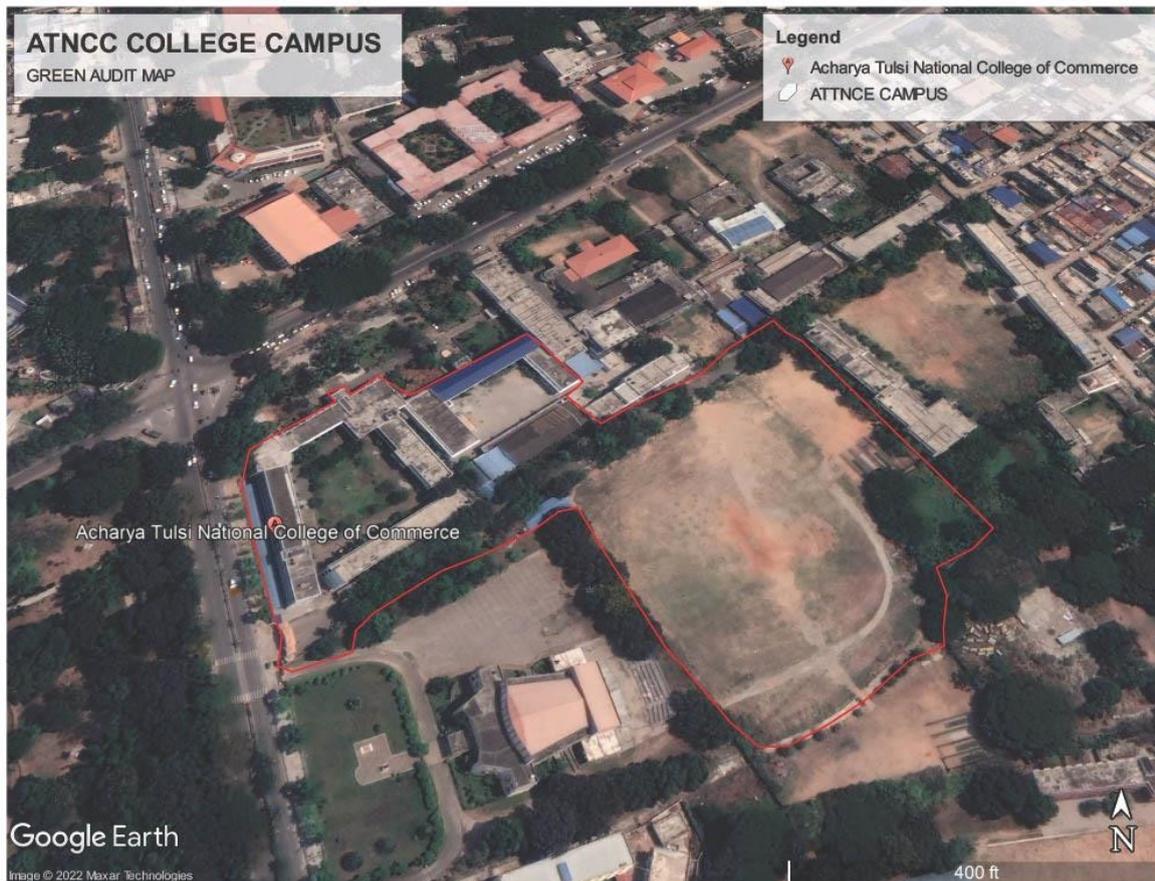
- Land Use System
- Population
- Biodiversity Status
- Water Resources and Management
- Energy Consumption

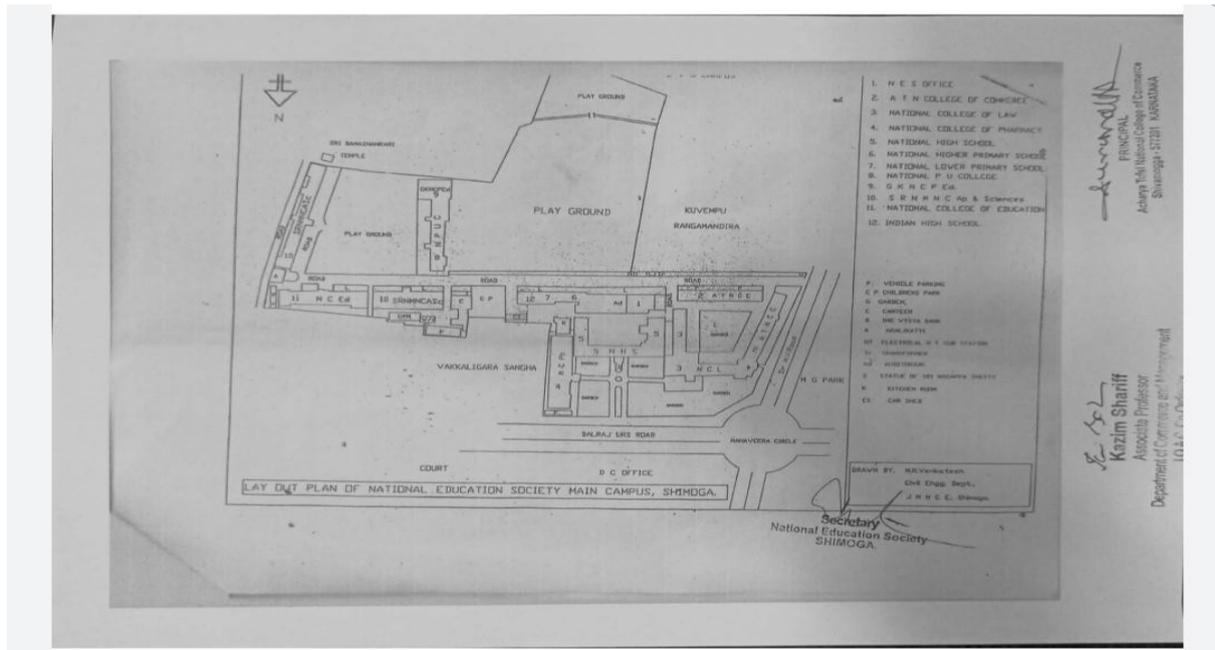
- Waste disposal and management
- Environmental Awareness

Land use system:

The college is spread over 15.35 acres which includes about 5 acre sports ground and 1.83 acre green area. College is easily accessible by road and railway station; nearest railway station which is 900 m away.

Although campus is located in residential area, presence of green belt including gardens, lawns and an herbal garden has considerably reduced noise pollution in the campus. College building area has an academic building, college building, library building and canteen. Rainwater Harvesting System (RWH) is installed and vermicomposting unit is under construction.





Geographical description:

Climate: The ATNCC is located in tropical zone of Central western Ghats. The basic climatic pattern is mainly based on presiding monsoon condition. There are three main seasons, the winter which is usually very cold with slight rainfall (December to March), the summer season, during which the temperature increases, thus, making the climatic conditions very warm and dry (April to mid-June), and a rainy season with warm and humid conditions (mid June to mid-September). The period between winter and summer can be recognized as autumn (October to November) and spring (February to March), respectively.

Rainfall: The rainfall occurs during the monsoon (mid of June to mid of September, however, sometimes even at the end of September). The maximum rainfall occurs during July and August. Sometimes occasional rainfall occurs in the odd months also. The average annual rainfall is 1500mm/year.

Temperature: Temperature varies according to climatic conditions which tend to change drastically in the area. January and February are the coldest months while May and June are the hottest months. Generally, temperature remains high between March and June when it reaches close to mean maximum of 42⁰C.

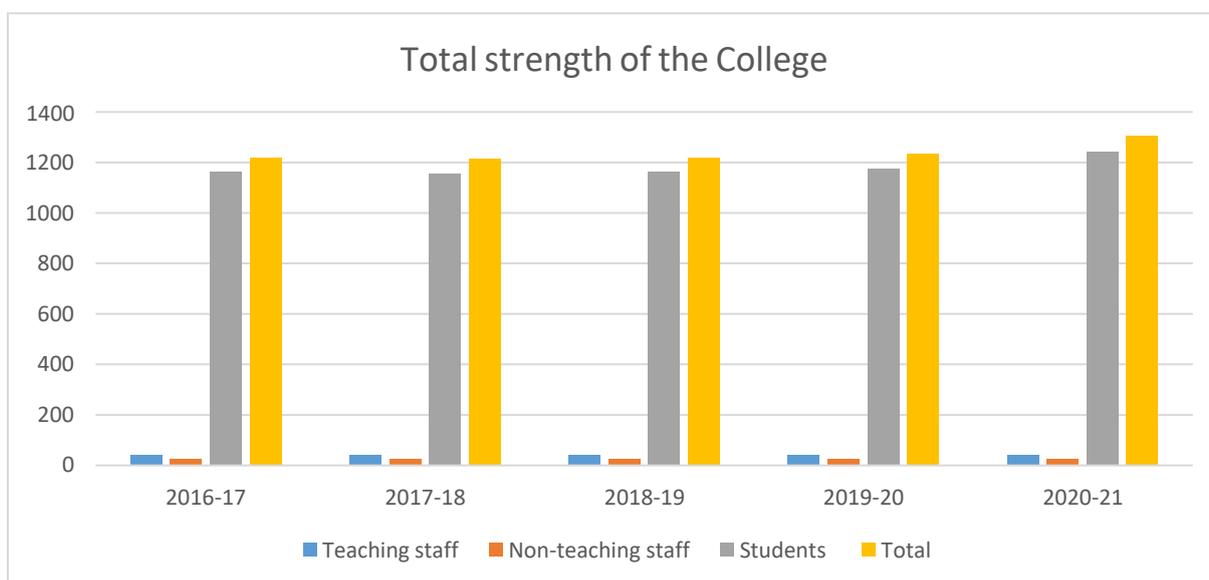
Good Daylight and Ventilation:

- Classrooms, laboratories, offices, library etc. have high ceiling, wide doors and large windows.
- Building is designed in such a way that corridors and classrooms receive ample sunlight. Curtains are provided for laboratory windows to avoid glare. Natural light in the classrooms was about 70-85 lux.
- Ventilation in classrooms is facilitated by windows and fans. Cross ventilation is facilitated due to large windows on both sides of some classrooms. Air conditioners are used in offices, computer laboratories and computer server rooms.



Total Strength.**Details of employees and students strength of the ATNCC campus (Year wise).**

Sl No	Year	Teaching staff	Non-teaching staff	Students	Total
1	2016-17	40	26	1162	1219
2	2017-18	42	26	1156	1216
3	2018-19	40	24	1165	1220
4	2019-20	42	25	1175	1233
5	2020-21	40	25	1280	1340

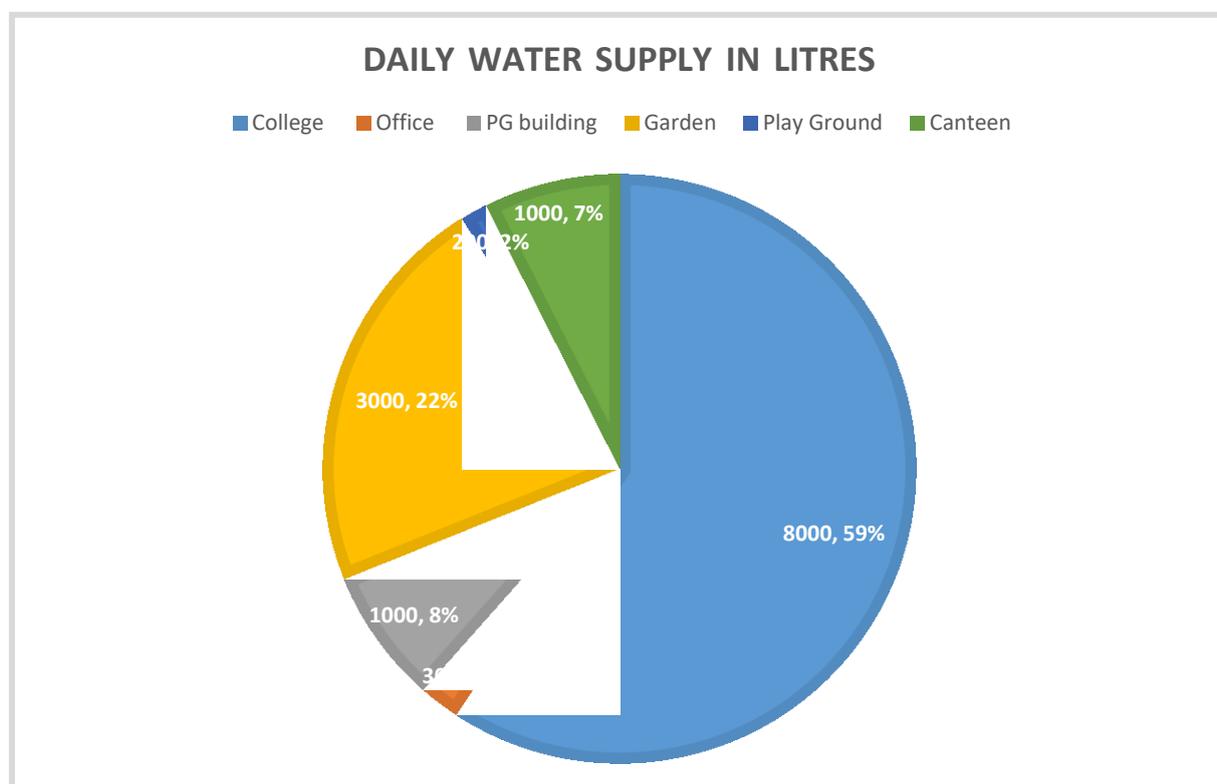


Water management

SI No	Parameters	Response	Remarks
1	No of Wells	01	Open well
2	No of motors used	3	2hp each
3	Horse power – Motor	6hp	
4	Number of water tanks	5	Overhead
5	Capacity of tank(in litres)	4000	
6	Quantity of water pumped every day(in litres)	8000	
7	Any water wastage/why?	No	
8	Water usage for gardening(in litres)	3000	
9	Rain water harvest available?	Yes	The roof water is connected to open well
10	Any leaky taps	No	Replaced
11	Any water saving techniques followed?	Rain Water Harvesting(RWH)	Immediately replaced when leakage is found.
12	Are there any sign boards reminding peoples to turn off the water?	Yes	

Water Consumption per Day:

SI No	Name of the Building	Daily water supply in litres	Daily water usage in litres
1	College	8000	7000
2	Office	300	250
4	PG building	1000	800
4	Garden	3000	2200
5	Play Ground	200	150
7	Canteen	1000	800
		13,000	11,200

**Water Quality assessment:**

Water samples from four different locations were collected and analyzed for its quality parameters. The samples includes two well water which are the main water source of the college campus and two tap water samples which is used for canteen and drinking water cum cooler systems. The samples were collected, preserved and transported to school of Environmental Sciences and analyzed for various physio-chemical parameters. The major parameters analyzed include dissolved oxygen, acidity, alkalinity, chloride, hardness, pH, conductivity, total dissolved solids and salinity. The results are presented in the Table and

results are comparable with the values of drinking water standards prescribed by different agencies.

Parameters	S1(source)	S2(canteen)	S3(RO)	BIS
pH	5.6	5.8	6.4	6.5-8.5
TDS (ppm)	86	72	94	500
Conductivity(μ S)	156.6	88.56	95.12	
Chlorides(mg/l)	46.33	35.4	28.65	250
Dissolved Oxygen (mg/l)	6.74	5.6	6.5	6-8
Acidity (mg/l)	57	66	71.5	200
Alkalinity (mg/l)	22.3	26.7	32.15	200
Hardness (mg/l)	12.6	11.2	10.4	250
Salinity (mg/l)	0.1	0.2	0.1	
Fluoride (mg/l)	0.2	0.03	0.04	1
Calcium hardness (mg/l)	12.3	13.4	14.23	

The study results compared with standards prescribed by BIS and WHO indicates suitable for human consumption after disinfection. Stake holders use, large quantity of water and at the same time discharge of waste water containing organic and inorganic impurities. At present there is no waste water treatment unit in the campus. This has to be taken care off to utilize waste water by treating water for reuse.



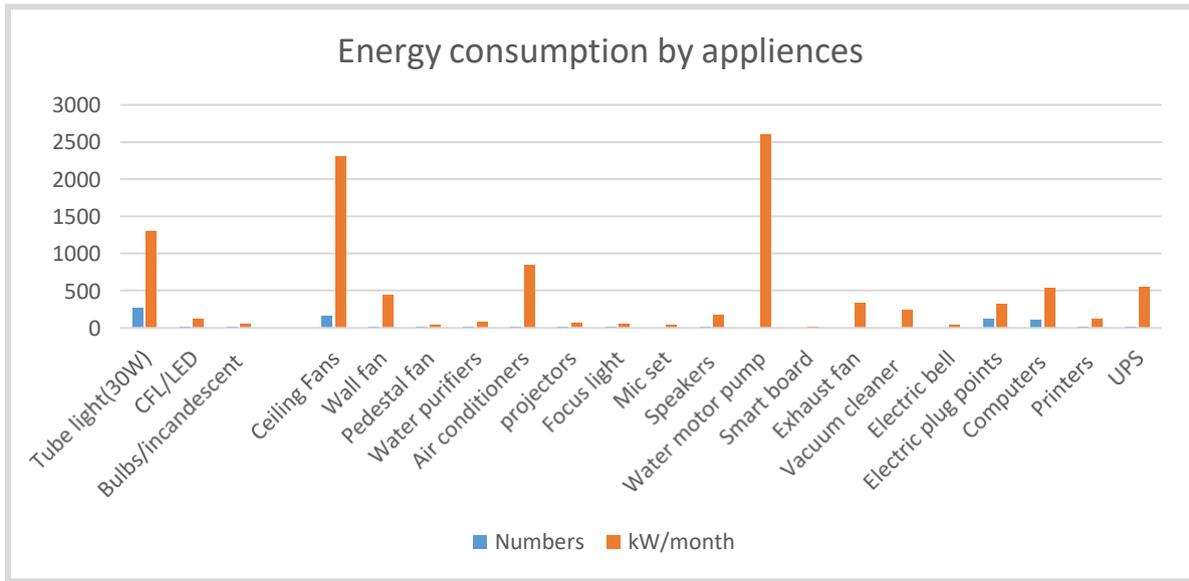
Open well for collecting rain water



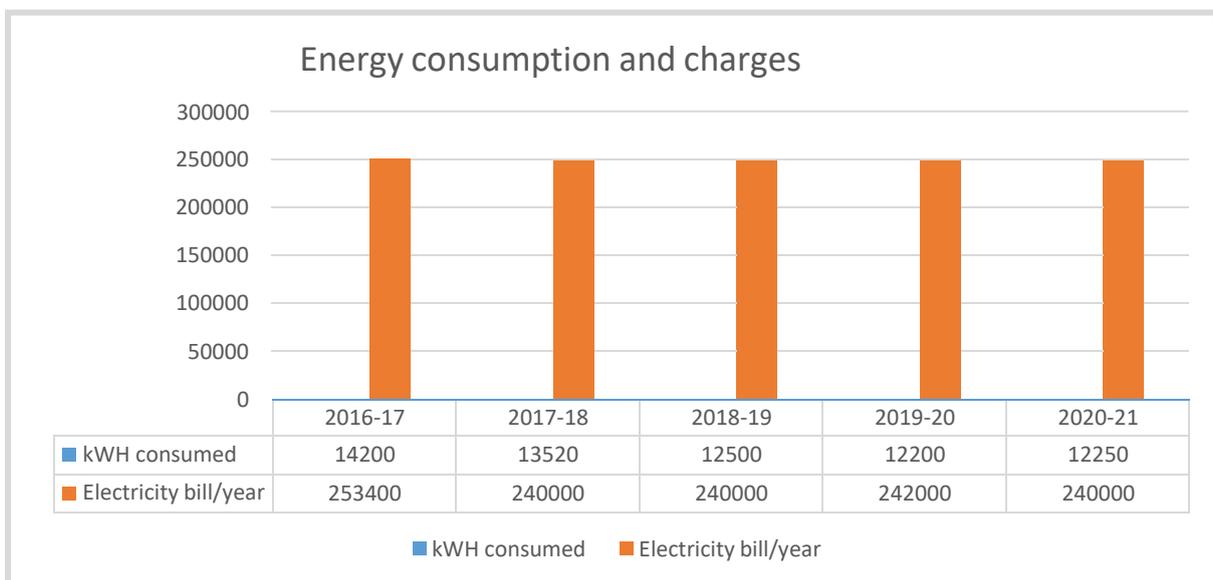
Water purifier

Electricity Consumption (KWH):

Sl no	Name of the appliance	Numbers	kW/month
1.	Tube light(30W)	267	1300
2.	CFL/LED	12	43.2
3.	Bulbs/incandescent	08	57.6
4.	Ceiling Fans	158	850
5.	Wall fan	08	48
6.	Pedestal fan	08	40
7.	Water purifiers	06	25
8.	Air conditioners	08	250
9.	projectors	08	65
10.	Focus light	08	46
11.	Mic set	02	35
12.	Speakers	16	180
13.	Water motor pump	05	2600
14.	Smart board	01	12
15.	Exhaust fan	02	340
16.	Vacuum cleaner	01	240
17.	Electric bell	01	42
18.	Electric plug points	116	323
19.	Computers	110	540
20.	Printers	06	124
21.	UPS	21	554
22.	Generators(40kW)	01	



Sl No	Year	kWH consumed	Electricity bill/year(in Rupees)
1	2016-17	14200	2,53,400
2	2017-18	13520	2,40,000
3	2018-19	12500	2,40,000
4	2019-20	12200	2,42,000
5	2020-21	12250	2,40,000



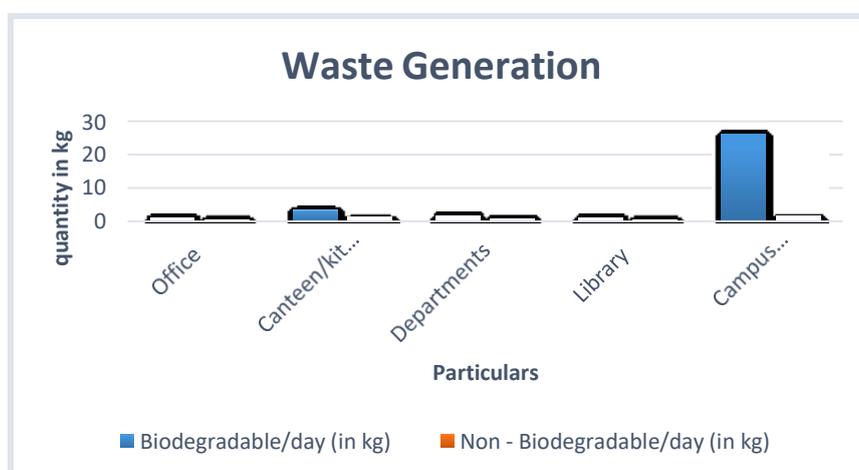
Solid waste Management:

Both biodegradable as well as non-biodegradable wastes are generated from various departments/sections of the college. The principal waste includes paper, grasses, electronic wastes, canteen waste and other solid wastes. Whereas, plastic wastes is completely or strictly banned in the college campus. However, following provisions have been made:

i. Biodegradable: There are two kinds of dustbins placed at different places/department/sections to collect the waste separately. Thereafter, the biodegradable waste produced from various departments is used for composting. Then compost is used for gardening purpose.

ii. Non-Biodegradable: There is very less quantity of non-degradable waste generated in the campus. However, rest of the non-degradable waste generated from places/department/sections of the university is collected in dustbins and sent for the disposal through waste collection vehicle.

Particulars	Biodegradable waste/day (in kg)	Non - Biodegradable waste/day (in kg)
Office	1	0.5
Canteen/kitchen	3.5	1.25
Departments	1.5	0.75
Library	1	0.5
Campus (leaf litter, twigs, organic waste)	26	1.5
Total	33	03



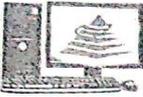
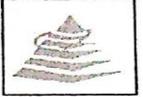


Waste bins and the collection of waste by ATNCC college

E-Waste: Besides the above wastes there are another category of waste is E-waste which includes computers, laptops, pen drives, printers, hard discs, CD's and other solid waste, electrical & electronics equipment's generated through different department/sections is disposed and managed by the college administration, maintenance and store department of the college and the details are properly maintain in the stocks register. Thereafter in every five year the concerned departments categorize the useless items in to the wastes and disposed through auction and buyback from the authorized buyers as per the Karnataka Government Rules.(Letter dated 16-07-2018)

GSTIN : 29APHPH6953P1ZU

NEW CYBER INFOTECH
ನ್ಯೂ ಸೈಬರ್ ಇನ್ಫೋಟೆಕ್

72 (A) / 2018-19
16-07-2018
Date: 16th July, 2018

To,
The Principal,
Acharya Tulsi National College of Commerce,
Shimoga.

Respected Sir,

Subject: Regular collection of e-waste from the institution.

We appreciate your concern and awareness about environment pollution. In this regard, as per your request we agree to collect e-waste from your institution and dispose the same systematically. We are happy to join hands with you in protecting environment from pollution.

Thanking You,

Date: 16th July, 2018
Place: Shivamogga

Yours Faithfully,





Computers Sales & Service, AMC, Networking
Peripherals, Consumable & Software Development. Pruthvi Mansion, 100ft Road, Vinobanagar, SHIMOGA
Ph : 08182 - 248001, 9900269394, 9448940302



Biodiversity:**Plants species**

No.	Name of the Plant	Family
1	<i>Tectona grandis,</i>	Lamiaceae
2	<i>Anogeissus latifolia</i>	Combretaceae
3	<i>Acacia auriculiformis</i>	Fabaceae
4	<i>Acacia catechu,</i>	Fabaceae
5	<i>Bambusa bambos</i>	Poaceae
6	<i>Bauhinia racemosa</i>	Fabaceae
7	<i>Butea monosperma</i>	Fabaceae
8	<i>Caesalpinia crista L.</i>	Caesalpinia crista
9	<i>Cassia fistula</i>	Lecythidaceae
7	<i>Ficus bengalensis,</i>	Moraceae
8	<i>Terminalia chebula</i>	Combretaceae
9	<i>Terminalia bellerica,</i>	Combretaceae
10	<i>Eucllytus spp.</i>	Myrtaceae
11	<i>Emblica officinalis</i>	phyllanthaceae
12	<i>Azadirachta indica</i>	Meliaceae
13	<i>Saraca asoca</i>	Fabaceae
14	<i>Ipomoea carnea</i>	Convolvulaceae
15	<i>Ficus roxburghii</i>	Moraceae
16	<i>Jasminum malabaricum</i>	Oleaceae
17	<i>Mimosa pudica</i>	Fabaceae
18	<i>Oxalis corniculata</i>	Oxalidaceae
19	<i>Pongamia pinnata</i>	Fabaceae
20	<i>Santalum album</i>	Santalaceae
21	<i>Senna tora</i>	Fabaceae
22	<i>Lantana camara</i>	Verbenaceae
23	<i>Calotropis procera</i>	Apocynaceae
24	<i>Cestrum nocturnum</i>	Solanaceae
25	<i>Murraya koenigii</i>	Rutaceae
26	<i>Ricinus cummunis</i>	Euphorbiaceae



Environmental Awareness

Environmental awareness programmes were conducted in the campus. Students and staff is well aware about the importance of various environmental issues. The administration is always followed green measures. Compulsory Environmental Studies subject is mandatory for all the under graduate students, therefore the students are more knowledgeable and actively participating in conservation and management. Every year on the occasion of Environment Day, plantation drives programmes are arranged in the campus and surrounding areas. In addition to other programmes college also adopted nearby villages for creating environmental awareness, similarly health camps and other community programmes being conducted through their participation.

Plantation Drives: Plantation drives are regular activities in the campus, and usually in all important occasions, plantation activity is taken up. ATNCC has maintained a garden in which different ornamental plants have been raised.

Organic Composting: The activity of making organic compost has been initiated in the campus where all the biodegradable waste materials are filled up in the compost pit. In the course of time, organic compost is prepared. This organic compost is utilized for manuring in flowerbeds and plantations.

Waste disposal are the activities and actions required to manage waste from its inception to its final disposal. This includes the collection, transport, treatment and disposal of waste, together with monitoring and regulation of the waste management process.

The waste generated in and around the college is separated daily as wet and dry waste in different bags which are disposed separately. Dry waste includes paper, cardboard, glass tin cans etc. on the other hand; wet waste refers to organic waste such as vegetable waste, left-over food etc. Separation of waste is essential as the amount of waste being generated today causes immense problem. The material was composted and evaluated as a fertilizing material. Disposal of these waste results in the production of good quality organic manure that can be used as soil amendments and source of plant nutrients.



Letter of appreciation:

ಶಿವಮೊಗ್ಗ ಮಹಾನಗರ ಪಾಲಿಕೆ, ಶಿವಮೊಗ್ಗ

ಶಿವಮೊಗ್ಗ ಮಹಾನಗರ ಪಾಲಿಕೆ, ಆಜ್ಞಾನ
 ಮಹಾದ್ವಾರದ
 ಮಹಾನಗರಪಾಲಿಕೆ, ಶಿವಮೊಗ್ಗ
 ☎ : 9980166616. 📠 : 08182-268500
 ವಾರ್ಡ್ ನಂ. : 29, ಆಜ್ಞಾನ ನಗರ



Smt. Suneetha S. Annappa
 MAYOR
 City Corporation, Shivamogga
 ☎ : 9980166616 📠 : 08182-268500
 Ward No. 29, Azad Nagar

ಕ್ರಮ ಪಂಚೆ : _____ ದಿನಾಂಕ : _____

The Principal,
 Acharya Tulsi National College of Commerce,
 Shivamogga.

Respected Sir,

Sub: Letter of appreciation.

We proudly present this letter of appreciation to your Institution for providing quality education since the beginning. We also appreciate your awareness and concern for keeping the environment clean & healthy. As I know the Institutions in and around Shivamogga city revealed that ‘Acharya Tulsi National College of Commerce, Shivamogga’ which comes under the prestigious National Education Society (R.), Shivamogga has kept the college campus clean, green & environment friendly.


 With Best regards,



Plantation programmes in ATNCC campus

Recommendations:

A green audit of any academic institution reveals, ways by which institute can reduce energy consumption, water use and reduction in emission of carbon dioxide in the environment. This process of green audit enables us to assess our life style, action and assess its impact on the environment. Green auditing is the process of identifying and determining whether institutional practices are eco-friendly and sustainable. Traditionally, we are good and efficient users of natural resources. But over the period of time excess use of resources, viz., energy, water, chemicals are become habitual for everyone especially, in common areas. Green audit regulates all such practices and gives an efficient way of natural resource utilization.

- Focus to assess the consumption of energy, electricity, water as well as disposal of liquid waste, solid waste, hazardous waste, e-waste and an inventory of trees in the campus is also prepared to check how much CO₂ is sequestered and O₂ is released.
- Installation of LED lamps instead of CFL and replacing the old tube lights with the new LED tubes.
- Various awareness programmes will be helpful to motivate all the staff members for optimized sustainable use of available resources.
- The long term goal of the environmental audit program is to collect baseline data of environmental parameters and resolve environmental issue.
- Grow up vegetable garden and medicinal garden and gradually develop it as a nursery.
- The Green Audit Report on environment must reach the public so that it would succeed in reducing the environmental issues and its popularization among stakeholders.



Sunanda
Principal
Acharya Tulsi National College
of Commerce, Shimoga - 577 201