

GREEN AUDIT REPORT (2017-18)
OF
CENTRAL UNIVERSITY OF PUNJAB
BATHINDA, PUNJAB



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Introduction

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institute which will lead for sustainable development.

Central University of Punjab, Bathinda is deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends. Being a premier institution of higher learning, the university has actively promoted various programmes for the environment protection and sustainability.

The methodology of the audit include: preparation and filling up of questionnaire, physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. It works on the several facets of 'Green Campus' including Water Conservation, Tree Plantation, Waste Management, Paperless Work, Alternative Energy and Mapping of Biodiversity. With this in mind, the specific objectives of the audit are to evaluate the adequacy of the management control framework of environment sustainability as well as the degree to which the Departments are in compliance with the applicable regulations, policies and standards. It can make a tremendous impact on student health and learning college operational costs and the environment. The criteria, methods and recommendations used in the audit were based on the identified risks.

Objectives

The green audit of the campus was carried out with the main objectives to monitor the green practices followed in the University towards achieving environmental sustainability.

This report was focused mainly on the following topics

- *Water Management*
- *Energy management*
- *Waste Management*
- *Green Plantations*

Water and waste water Management

The University is following judicious water consumption pattern. The main water sources in the University are canal water supply and the ground water. The canal water was stored in an underground reservoir in the campus and distributed to various laboratories. The University has two desalination plant of 4000 LPH and 10000 LPH capacity that use ground water with high TDS as feed water and product water of good quality water standards. The product water was further distributed to student mess, hostels (boys and girls), administrative block, academic block and residential area.

The University has installed a number of RO plants in various locations of the campus including student co-operative mess, hostels (boys and girls), administrative block, academic block and residential area to provide quality water for drinking and cooking purposes. The hostels are having roof top water storage tanks for distributing water to bathrooms for washing, bathing and for toilets.

The micro-irrigation techniques like sprinklers were used in the garden to improve water use efficiency. The reject water from the desalination plant is used for irrigating the trees thereby reducing the water demand for irrigation and also manages the waste water after desalination. This water is also distributed to toilets for flushing out that help in huge amount of water savings.

The University has 03 Sewage treatment plant (STP) (total treatment capacity 120 KLD) for treating the wastewater using Fluidized Aerobic Bioreactor. This treated water is used for watering the plants in the garden and sludge as compost.

The repair works related to water leakages were fixed immediately to reduce water loss.

Energy Management

The entire campus has installed with LED tubes that reduces the energy consumption and have better efficiency. All the air conditioners installed are of having energy stars with power savings. The refrigerators and most of the equipment in the laboratories are also has star ratings with less energy consumption.

The campus has been following the GRIHA norms with its eco-friendly and energy efficient measures. The new campus has been certified with 5 star rating under GRIHA –V for Master Plan.

The University has given much importance to the use of renewable energy sources. The solar photovoltaic units with supplying energy for street lights and solar water heaters have been installed in the campus. The wind mill to harness the wind energy has also been installed in the campus. Ministry of New and Renewable Energy (MNRE) has given subsidy to the University for the already installed two 5KW Solar-Wind Energy Hybrid Systems in the campus. MNRE has also approved 50% subsidy for the installation of 60 KW SPV Solar Roof Top System being commissioned through Punjab Energy Development Agency (PEDA). The Central University of Punjab, was awarded by PEDA during 2009-10 for its “constant efforts in energy conservation”.

The awareness on energy conservation was regularly conveyed to staff and students to make them more responsible. Small activities like switching off lights, fans and computers not in use were completely practiced by all the members of University. The temperature of the air conditioners in the campus was set at 21°C during peak summer to reduce energy consumption without affecting the comfort.

The day scholar students and staff are mostly rely on the University bus services for their transportation which saves the fuel consumption and also reduces the carbon emissions from private vehicles.

Waste Management

The colour coded bins for different wastes are placed at different locations of the campus for collection of waste and its easy sorting at source.

Biodegradable wastes: The biodegradable wastes generated from mess kitchen, canteen and plant litters were collected and used for composting. The paper wastes especially the cardboards are generally sold to the recyclers. In order to reduce the paper consumption and paper waste generation the University follows double sided printing on papers for official purposes.

Hazardous waste: The biomedical wastes generated in the research laboratories were collected in biohazard bags in separate bins. This waste was collected regularly by Medicare Environment Management Agency. The different chemical bottles are labeled properly, grouped as per its hazardous nature, placed appropriately in the laboratories. The unused chemicals are kept with unbroken caps with great care. Chemical wastes and e-wastes are discarded following standard measures prescribed for safe disposal. All the science laboratories are installed with fire extinguishers for emergency.

Green plantation in the campus

The University campus is a green campus with many ornamental, medicinal, fruit and timber plants. More than 35 plant species are planted in the campus with proper labelling of its botanical and common name. These trees are habitat for several bird species. The bird nests along with water have been placed in many locations to increase the number of bird visits. The regular plantation drives were conducted at main campus to improve the present greenery in the campus.

The green audit concluded that the Central University of Punjab has taken all the eco-friendly measures for making the campus green and environmentally sound. All the students, staff, faculty and administration are working to achieve environmental sustainability.
