ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 11, S Iss 3, Dec 2022

GREEN TRENDS IN INSTITUTES OF HIGHER EDUCATION

Dr. Alka
Associate Prof. in Physics, Govt. PG College, Ambala Cantt.
Email- alkagc1@yahoo.co.in

DOI: 10.48047/IJFANS/S3/142

ABSTRACT
We are living in an era of sustainable development and application of green concepts in almost all facets of life i.e. Green business, green marketing, green banking, green hospitals and so forth. Now, the focus is on going green in educational institutes, particularly in the institutes of higher education. It is because higher education institutes have been centres of learning as well as catalysts for social and political change. Going green in higher education sector is very crucial to create a sustainable future. In this paper, we explore about the green trends, the best practices and the new thinking in institutes of higher education and how these green practices can lead to bridging the gap between the academia and community needs in an ecologically sustainable manner.

Introduction
The present environmental issues and facts have created awareness on the kind of impact that it will have on future generations. This has initiated necessity of going green and being sustainable which has created an increased demand for green services and products. In particular, the last two decades have witnessed the rise of a "green growth policy paradigm" (Hinojosa C, 2016) aimed at addressing the world's most pressing environmental challenges, while fostering economic growth founded on the principles of sustainability and inclusiveness. Green growth is now widely recognized as a model for growth implying an alignment between economic development, environmental protection and social improvement objectives. Green growth policies generally aim to harness the benefits of continued economic development while preventing further damage to natural resources, and adapting to changing climate conditions.
The institutes of higher education provide role models for excellence in education. They are hubs of research and intellectual activity, employing experienced scholars and educating the future workforce. As such, they are also often the instigators of positive changes or shifts in the outside world around them. As climate change and pollution have become a reality and a threat to our nation's future prosperity, higher education institutions have been proponents of green initiatives, often leading the way in environmental construction, practice and purchases. In addition to protecting the environment, green practices can go a long way in helping institutes operate more efficiently and cost-effectively — measures that are desperately needed during tight fiscal times. In this work, we look at some of the green trends happening in higher education today as well as the practices that colleges and universities can employ to lower costs, become more sustainable and help the environment.

Green Concepts in Higher Education
Green higher education (Rao & Aithal, 2016) is all about creation of knowledge, skills, attitudes and values related to environment. It's more needed in higher education because of

ISSN PRINT 2319 1775 Online 2320 7876

Research paper **© 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11, S Iss 3, Dec 2022**

the dependence of environment on the economy. The green economy should be used as the centre point for understanding the inter links between natural environment and the other environmental forces like political, social and economical. Higher education plays a pivotal role in creating and developing human capital. This resource that is created should not just look at economic point of business but societal aspect as well.

Green education also includes enhancing students' knowledge in using green technology. Computer and information technologies are already considered as green technologies due to their contribution to clean environment in many industrial automation processes. Green nanotechnology has been described as the development of clean technologies, "to minimize potential environmental and human health risks associated with the manufacture and use of nanotechnology products, and to encourage replacement of existing products with new nano-products that are more environment friendly throughout their life cycle. Green nanotechnology is the study of how nanotechnology can benefit the environment, such as by using less energy during the manufacturing process and the ability to recycle products.

Green Campus

A Green Campus is a place where environmental friendly practices and education combine to promote sustainable and eco-friendly practices in the campus. The green campus concept offers an institution the opportunity to take the lead in redefining its environmental culture and developing new paradigms by creating sustainable solutions to environmental, social and economic needs of the mankind.

Greening the campus is all about sweeping away wasteful inefficiencies, using non-conventional sources of energy for its daily power needs, correct methods of waste disposal, purchase of environment friendly supplies and effective recycling program. An institute has to work out the time bound strategies to implement Green Campus Initiatives (GCI). These strategies need to be incorporated into the institutional planning and budgeting processes with the aim of developing a clean and green campus. In fact, the impact on the environment should be primary concern in all decision making processes of the institute and students should be part of this. (Togo, 2009).The Green Campus Initiatives (Ribeiro et al, 2021) will enable the institutions to develop their campuses as a living laboratory for innovation.

In an effort to promote the green campus concept in institutions across the country, the University Grants Commission (UGC), in the year 2020 proposed a sustainable campus framework to set out the principles for achieving a green and sustainable campus environment for Indian higher education institutions. The SATAT- Framework, developed with the help of eminent environmental experts, intends to develop eco-friendly and sustainable campus in Higher Educational Institutions and encourages them to adopt reflective policies and practices to enhance the environmental quality of the campus and to adopt sustainable and green methods in its future. The newly released National Education Policy (NEP 2020) also talks of the crucial responsibilities of Higher Education Institutes in community engagement and environmental education to make students sensitive and responsible towards environmental issues. (Kumar et al, 2020 & Chakraborty et al, 2021)

The main thrust areas for an educational institute to go green are:

Waste Water Management/ Rainwater Harvesting

Water management is quiet essential and requires attention for rain water harvesting as well as recycling of used water. It is a major issue which all institutions aspiring for green campus should focus on top priority.

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 11, S Iss 3, Dec 2022

Effective water management in an institute can be done by installation of sewage treatment plants, drip pipe lines, recycling of drainage water units, rain water harvesting etc. The treated water can be used for irrigating campus lawns and flushing of toilets. Water flow restrictors on bathroom faucets and showers, low water flow toilets and automated urinal flushers should be used to cut down water use in the campus.

Waste Management

Every bit of waste generated in the institute can be collected, segregated and recycled. Biodegradable waste can be converted into compost. Biogas generation plant can be set up which can be used in the hostel kitchen and canteen.

Transportation

Transportation poses a considerable challenge to sustainable development. (Mosaberpanah & Khales, 2012) Students and faculty members use vehicles operating on fossil fuels such as petrol or diesel for commuting to the campus. The authorities can make efforts to encourage use of bicycles and electric vehicles for mobility within the campus.

Energy Efficiency

Cutting costs by improving energy efficiency is a real and tangible goal for any higher education institution. Save Energy should be the motto of every day's working in each institute. Every institute should purchase only energy star compliant computers and equipment. If energy star is unavailable, the most energy-efficient model available in the market should be purchased.

Solar panels can be installed in the campus to meet some of the energy needs. Every institute should develop a plan to save energy at the institute level with a time bound plan to install Solar Power Station either at the top of college building or in open field. This will enable the institute to produce enough clean, renewable energy to cover all of its electricity needs and may even generate more energy than what is needed, bringing in an additional source of revenue.

LED lamps, which have a better life span and electrical efficiency, can be used in place of CFL and tubes. Energy audit should be made mandatory for every institute.

Save Energy Tips for an Educational Institute

1. Activate power management features on your computer and monitor so that it will go into a low power "sleep" mode when you are not working on it.
2. Turn off your monitor when you leave your table.
3. Activate power management features on your laser printer.
4. Whenever possible, shut down rather than logging off.
5. Turn off unnecessary lights and use daylight instead.
6. Avoid the use of decorative lighting.
7. Use LED instead of compact fluorescent bulbs.
8. Keep lights off in conference rooms, classrooms, lecture halls when they are not in use.
9. Use the fans only when they are needed.
10. Unplug appliances not plugged into power strips (like TVs, Refrigerators, ACs, tea/coffeepots, printers, faxes, and chargers etc.)

In this context, UGC has taken initiatives to develop green campuses under Development of Solar Cities programme- a project under the ministry of new and renewable energy (MNRE)

ISSN PRINT 2319 1775 Online 2320 7876

Research paper **© 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11, S Iss 3, Dec 2022**

which aims at minimum 10% reduction in projected demand of conventional energy at the end of five years vide its circular dated March 10, 2016. (Kulkarni, 2017)
This initiative from UGC has opened a huge opportunity for all the educational institutions coming under UGC to adopt the green campus concept.

Conservation of Greenery

Landscaping and tree planting will result in the beautification of the campus. Trees can help reduce the ambient temperature by nearly 5 degrees. Cultivation of organic vegetables, fruits and medicinal plants can be done. It will also result in rich bio diversity in the campus.

Eco Friendly Building Technology

One of the largest trends in higher education is green building and construction. This includes purchase of cement from green certified manufacturers, optimal use of natural light and air within the buildings, compulsory afforestation around the campus to make up for the loss of green cover during construction and so on. The future energy costs in heating/cooling/ventilating the buildings can be reduced by using these appropriate cost-effective, sustainable and eco friendly construction techniques and materials.

E-recycling Programs

About 130 million new PCs are produced each year and only about 12 percent of discarded computers are recycled causing a surplus of e-waste and environmental dangers across the nation. To deal with this issue, many higher education institutions are adopting e-recycling programs. The administrators from these institutions ensure that all e-waste components have their own recycling route. The surplus department resells old computers; cell phones go to an electronic-waste collection company; and monitors and TVs get shipped to an authorised buyer. E-waste management efforts such as these will contribute to a larger effort of reducing toxicity and creating a better use of resources.

Conclusion

It is evident from the study that institutes of higher education have a greater responsibility in implementing green concepts due to their primary role of knowledge producer. Higher education institutes can serve as a powerful means to help create a more sustainable future. The education system has to be reoriented at all levels to help people think and behave in ways that foster a more sustainable planet. Only then, higher education can play a significant role to achieve United Nation's Sustainable Development Goals (SDGs) (Blessinger P, 2018).

References

1. Hinojosa C (2016), Paper commissioned for the Global Education Monitoring Report, Education for People and Planet.
2. Rao Prithi & Aithal P S (2016), International Journal of Scientific Research and Modern Education (IJSRME), Vol. 1, Issue 1.
3. Togo M (2009), A system's approach to mainstreaming environment and sustainability in universities: The case of Rhodes University.
4. Ribeiro J, Hoeckesfeld L, Magro C, Favretto J, Barichello R, Lenzi F, Secchi L, Lima C, Guerra J, (2021), Journal of Cleaner Production, Volume 312, 127671.

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 11, S Iss 3, Dec 2022

5. Mosaberpanah M A & Khales S D (2012), Proceedings of ICSDEC, American Society of Civil Engineers, 441-448.
6. Kumar K, Prakash A, Singh K, (2020), Journal of Public Affairs.
7. Chakraborty A, Kumar S, Shashidhara L S & Taneja A (2021), Sustainability, 13(13), 7423.
8. Kulkarni R (2017), International Journal of Commerce and Management Research, Vol. 3, Issue 3.
9. Blessinger P, Sengupta E, Makhanya M (2018), University World News.