

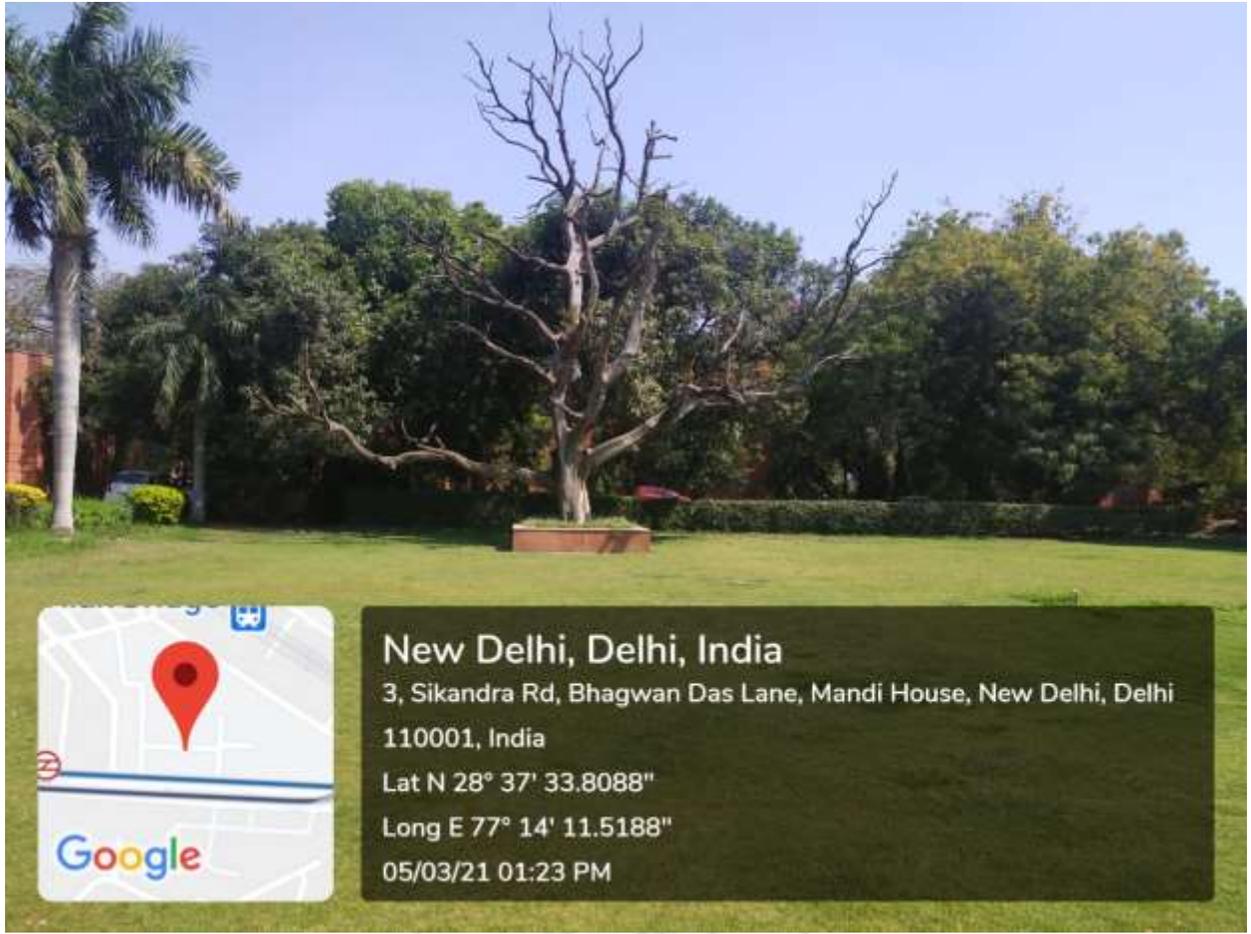
LADY IRWIN COLLEGE

Eco-Friendly Initiatives

Initiative 1: Biodiversity

Situated at the hub of the city and declared as a heritage structure, the college finds immense pride in the fact that it has been able to maintain the pristine state of nature in its campus. The natural landscape pre-dominates the campus with a rich biodiversity of flora and fauna which is taken care of by a dedicated team of workers. College has about 450 plants, which are adequate based on the acreage of the college campus. Impetus is given for plants like *Mangifera indica* (Mango), *Syzygium cumini* (Jamun), *Citrus limon* (Lemon), *Delonix regia* (Gulmohar), *Magnolia champaca* (Champa), *Azadirachta indica* (Neem), *Saraca asoca* (Ashoka), *Adansonia digitata* (Baobab), *Eucalyptus globulus* (Eucalyptus), *Manilkara zapota* (Chikoo), *Morus* (Mulberry) and many more. A continuous monitoring of the biodiversity is carried out by students, teaching and non-teaching staff. The college also has a Gardening Committee comprising of botanists who are engaged in maintaining the eco-friendly environment. There is a functional and active eco-club that involves itself in various awareness programs, seminars and other events at regular intervals. Van Mahotsav is celebrated every year to spread the concept of sustainable development and the importance of environment management and conservation. Practice of giving out and planting pots & saplings as souvenirs at various college events is also followed.

The Science (Botany) department of the college has been fundamental in converting the fallow land at the backyard of the college into a cultivable area which is used in organic farming of seasonal vegetables. Herbal gardens are maintained and medicinal plants like Aloe Vera, Ashwagandha and Tulsi are also grown. The inputs to the land are the wild varieties of seeds, bio-fertilizers and bio-pesticides. This helps in maintaining the land quality and providing organic vegetables to the teachers, staff & students at the same time.



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110001, India

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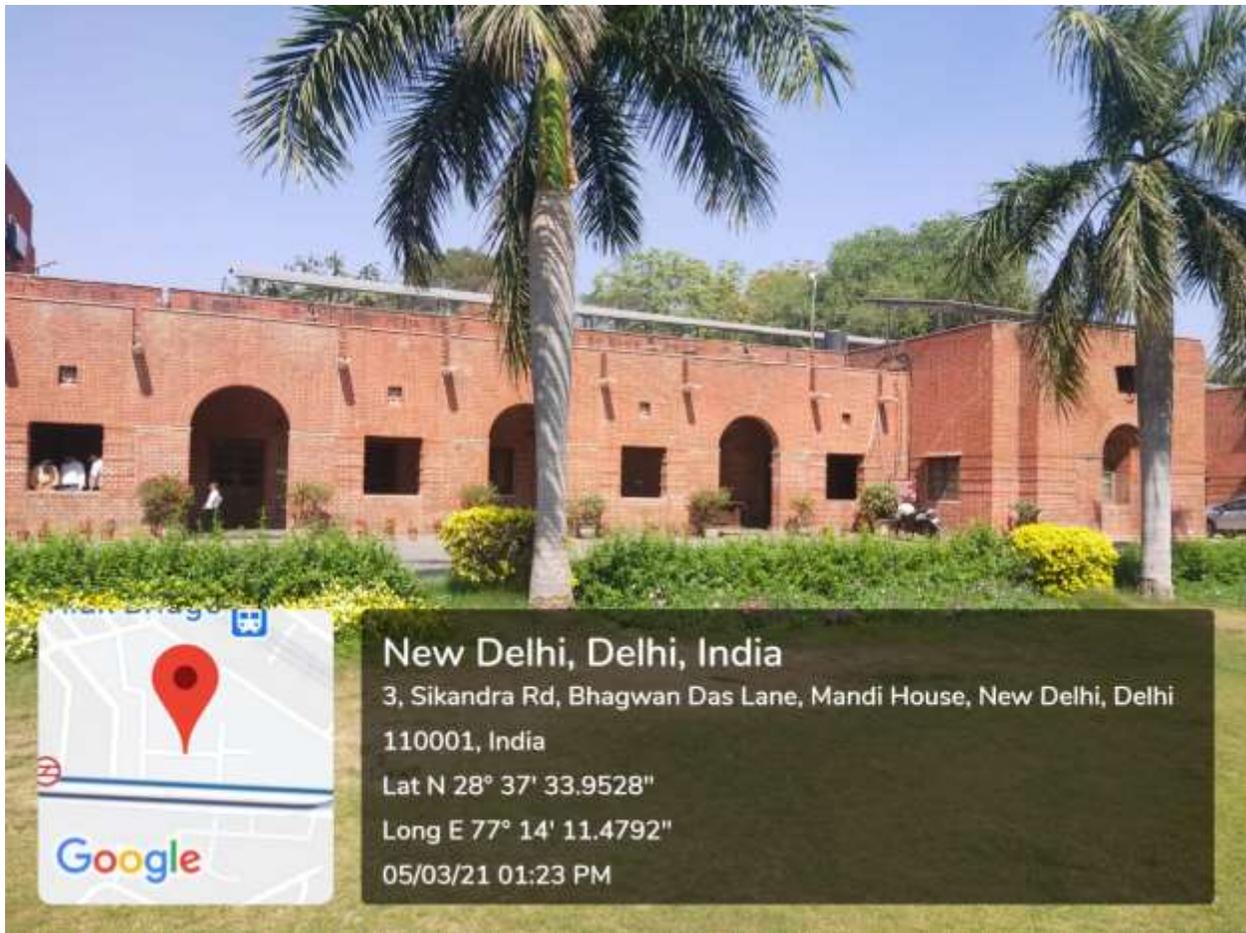
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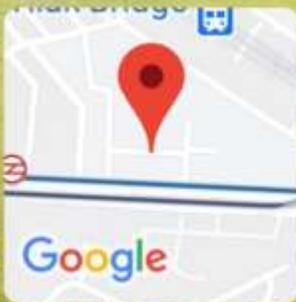
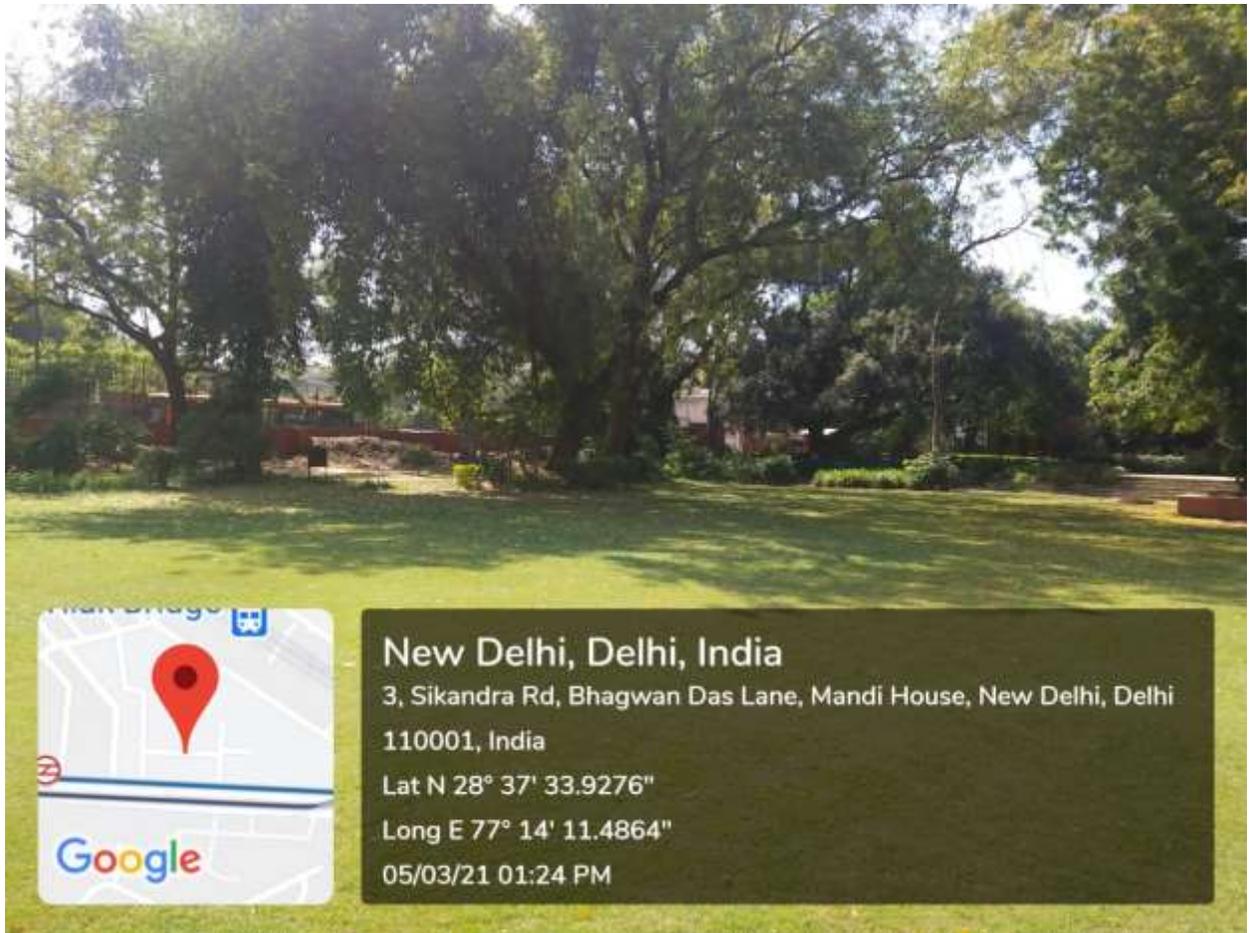
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Initiative II: Energy Management

LPG use and fossil fuels have been long disposed in the college. The college has a network of IGL lines in over 32 laboratories and 50 residential units on campus. Commercial IGL connection has been provided to canteen and hostel as well.

Use of Renewable Energy

To promote use of renewable energy, energy efficient fixtures like solar lamps, solar street lights & solar water heaters are installed throughout the college campus. Solar water heating systems were installed in the UG hostel in 2006 and in New PG Block in 2014.

- **Solar Photovoltaic (SPV) System Initiative (218 kWp)**

The SPV committee of Lady Irwin College has been working on roof top solar installation since the year 2016-2017. This was in line with the long standing history and commitment of the college to be sustainable in use of resources. For the same, IPGCL was contacted and PPAs were signed with Oakridge Energy Pvt. Ltd., one of the empanelled vendors of IPGCL on March 5, 2020 for installation and commissioning of the project under RESCO model. The solar plant is expected to generate about 3 lakh units of power each year and will lead to substantial savings for the college by reducing energy bills. It was inaugurated in October 2020 by Delhi Chief Minister and widely covered by media.



Energy Conservation

College construction allows for natural ventilation and lighting throughout its campus which helps conserve the energy demand. Long slender and clerestory windows in library, nearly eliminates the need for artificial lighting. Energy efficient lighting fixtures like T5, CFLs and LEDs are used in all classrooms and departments.

Hi speed internet Wi-fi facility and OPAC facility are available in the college. Further, students are encouraged to submit assignments online and wherever possible, e-circulars are used for communication in all departments.

Water Conservation & Management

Large green area of the college campus allows for percolation of water into the soil thereby facilitating recharging of underground water reserves. College only uses non-potable water for maintaining its gardens and farms. Rain water harvesting is also being practiced in the campus. To promote effective conservation of water, the college has replaced regular water fixtures with water efficient fixtures like dual flush and low flow systems. Conscious efforts are made by the garden committee to use new plant varieties requiring less water to further this initiative.

Initiative III: Waste Management

SOLID WASTE MANAGEMENT

Paper waste: The College has tied up with “Jaagruti – Waste Paper Recycling Services” for managing its paper waste. All the used paper of college is sent to them for recycling into useful products like notepads for use by college staff and students. This initiative marks Lady Irwin College as a zero paper waste institution. Innovation project on paper recycling was also instituted wherein students made useful items like notepads, covers and other products.

Plastic Waste: Use of plastic in any form is discouraged in the college campus and efforts are taken by all departments to reduce and reuse plastic waste. Students of department of Resource Management & Design Application conceptualize and develop lifestyle products using plastic waste. Department of Education develops teaching-learning materials such as science kits and educational games for Special Needs children from plastic waste.

Kitchen and Garden waste: In April 2019, Lady Irwin College in collaboration with Indian Pollution Control Association (IPCA) took an initiative to install Aerobins in the campus. **Aerobins** have revolutionized the system of home and garden waste management. They use a patented lung or aeration core inside a sealed bin to promote aerobic break down of organic matter releasing nutrients into the soil. Presently, aerobins are installed near the hostel mess of the college. Other than this, the kitchen and garden waste is also managed by converting it into manure using **Roly-poly** and **Vermicomposting**. This manure is used in maintaining the campus’s exquisite landscape as well as organic farming. **Leaf composting** is done in-house which is also put on sale in months of excessive leaf fall in order to clean the pits. Due to COVID, the above systems have been relatively inactive since March 2020.

LIQUID WASTE MANAGEMENT

College only uses non-potable water for maintaining its gardens and farms.

The hostel mess has installed grease traps to collect and reduce the amount of fats, oils and grease that enter the main sewers. This is an effective means of grease removal on site to prevent drain blockages, foul odors and potential pest infestation.

E-WASTE MANAGEMENT

The College maintains all its computer peripherals within its boundaries. It feels pride that it has been actively involved in recycling all the computers and its components in the last 25 years. This also ensures that the computer accessories are being maintained at no extra cost. The Computer Resource Centre of the college/purchase committee followed the practice of buy back policy of lithium batteries and ink cartridges while making new purchases. This practice was discontinued with the introduction of GeM portal. It has awarded the tender/auction to government approved vendor for management and disposal e-waste as per safety norms.

HAZARDOUS CHEMICALS MANAGEMENT

Waste is an obvious culprit and pollutant, contributing to landfills and toxins which harm the earth's soil and atmosphere. Keeping this in mind, the waste material in college is segregated into biodegradable and non-biodegradable wastes, and as toxic and non-toxic wastes in the laboratories. Indiscriminate use of chemicals is discouraged during practical classes. The college does not use radioactive substances in their laboratories.

Initiative IV: Capacity Building for Green Future

Being aware about one's environment fosters a sense of responsibility towards it. It also promotes sustainable development and encourages conservation of all resources. Keeping this in mind, Lady Irwin College organizes numerous webinars, campaigns, workshops, symposiums, projects, rallies and trainings to address diverse issues of the environment. These activities are conducted within and beyond the campus to create awareness among the students and develop a better understanding of environmental issues and concerns. The details are as follows:

Conferences & Symposiums

❖ First South Asian conference on Sustainability in Textile and Apparel Industry

Department of Resource Management & Design Application collaborated with Prem Jain Memorial Trust and Michigan State University, USA along with other partners- School of Planning & Architecture New Delhi, IDH-the Sustainable Trade Initiative and Ella Pad

Foundation, Dhaka, Bangladesh for the First South Asian conference on Sustainability in Textile and Apparel Industry 2020. This conference was held on 3rd March, 2020 at C.D. Deshmukh Auditorium, India International Centre, New Delhi and was inaugurated by honourable Union Minister for Textiles and Women & Child Development Mrs. Smriti Zubin Irani. The faculties moderated and coordinated the session on “Workers’ wellbeing and related aspects of Operations”.

❖ ***Annual Symposium on harnessing green energy for the future***

Department of Resource Management and Design Application, Lady Irwin College, University of Delhi, Delhi in collaboration with Michigan State University, USA convened the 13th Annual Symposium on harnessing green energy for the future on February 25, 2020 in New Delhi and the funding was sponsored from Indian Oil Corporation Limited, India. The symposium panelists included eminent people working in the field of sustainable practices and environment, viz., Prof. Matt Syal, Professor, School of Planning, Design & Construction, MSU; Mr. Saurabh Diddi, Director, Bureau of Energy Efficiency; Mr. Neeraj Kapoor, Founder and Managing Director, Kalpakrit Sustainable Environments and Ms. Riya Rahiman, India Program Manager, Clean Air Asia.

❖ ***National Innovation Day 2020 on ‘Plastic-o-thon: Reuse, Remedy & Substitute’***

National Innovation Day 2020 was organized by the RMDA department and competitive events were held for designing products for plastic reuse and plastic substitute. The event was held in January-February 2020 and students from Lady Irwin College as well as other educational institutes and deemed universities across the city participated. A symposium was organized in celebration of the National innovation day on the last day. The panelists included eminent speakers like Prof. Lalit Kumar Das (Former head, Industrial Design Centre, IIT), Dr. Bindoo Rajan (Head NID, Delhi), Dr. S.K. Nigam (Advisor, Dept. of Environment), Ar. Parag Anand (Head, Industrial Design Dept, SPA), Mr. Shailendra Singh (member – Environment Committee, AIPMA), Prof. Bhibhu Biswal (Coordinator, Design Innovation Centre, University of Delhi) and Ms. Malika Srivastava (Executive Director, Centre for Microfinance).

Workshops/Rallies/Training

Lady Irwin College conducted numerous activities to focus on integral environmental aspects and promote eco-friendly lifestyles as enlisted below:

- ✓ Graffiti Making on energy conservation
- ✓ Workshop on disaster management program
- ✓ Walk For Water, Rally for Water Conservation
- ✓ Tree Plantation Drive
- ✓ Plastic Collection Drive
- ✓ Installation of Tower of Unity Against Plastic
- ✓ Donation of Plastic Bottles in collaboration with Indian Pollution Control Association (IPCA)
- ✓ Kalam Series on Science and Environment

Projects

Students & staff of Lady Irwin College work on numerous projects as part of the curriculum to provide hands on experience to students. Details of a few noteworthy projects are as follows:

✓ Segregation of organic waste for Recycling and Treatment Project

This project was done by RMDA in collaboration with Indian Pollution Control Association wherein an initiative was taken to install Aero-bins in the campus for upgrading the process of Solid Waste Management. Aero-bins convert organic waste into compost and a by-product (liquid fertilizer) is used in college organic vegetable farm and garden. Students of M.Sc. previous along with college staff guided by the department faculties worked on this project as part of Project Management curriculum.

✓ Designing Sustainable Products For Community

Students of RMDA department with specialization in Space & Product Design work with local artisans for designing products made with eco-friendly materials. The students try to add a contemporary flavor to the local craft through constant exchange of ideas and brainstorming sessions without changing its core craft.

Webinars

During the pandemic, series of webinars were organized on online platforms (Zoom, Meet, Teams) by Lady Irwin College covering several fields- environmental, social, economic, design and so on. These webinars served as a perfect platform to connect students with notable dignitaries and experts from various industries. A glimpse of few webinars is listed below:

- ✓ Industry interface for sustainable design
- ✓ 2020, the Age of Realization?
- ✓ Plastic: A Global Pollutant
- ✓ Waste management practices: Concerns and issues in present context
- ✓ Sustainability in Accessory Design
- ✓ Digital Transformation in India that helped get through COVID-19 Lockdown
- ✓ Clean Energy Financing – A viable solution for post COVID-19 scenario
- ✓ Individual solution to Plastic Pollution
- ✓ Green Elements in an Institutional Evolution, Auditing with upgrade
- ✓ Design Possibilities post pandemic
- ✓ Development of Solar Energy in India
- ✓ CSR: The New Corporate Essential
- ✓ Importance of maintaining Indoor Air Quality and ventilation in COVID-19 Pandemic
- ✓ Composting: Cost effective alternative for home

Visits

Various visits were organized for the students to understand waste water treatment, paper recycling, solar technologies, vernacular architecture, resource mapping and gain insight into different typologies. A few places visited by the students were: Centre for Science and Energy, Airport Authority of India, Indian Pollution Control Association, Crafts Museum and Renewable Energy expo from September to December, 2020.

Initiative V: Researches on Eco-friendly Innovations

Lady Irwin College understands the importance of carrying out valuable studies in the field of environment management to facilitate innovations and expedite knowledge expansion. In this regard, all departments of the college have been actively involved in conducting researches on various eco-friendly innovations. Following are some of the noteworthy studies:

- Assessing Knowledge and Practices of College Attending Youth about Environmental Degradation: A Study in Delhi-NCR
- Analysis of Smartphone Applications and Communications about Air Pollution
- Green Technologies in Agriculture: A Study in Sohna Block (Haryana)
- Place-making in Urban Design: Focus on sustainable Landscaping
- Sustainability in Interior Design Using the Concept of Refurbishing: A Study in Selected Restaurants of Delhi, NCR
- Ecofriendly Alternatives for Batik on Silk and Cotton Fabrics
- Extraction of fibers from the Aerial Roots of *Tinctoria cordifolia* for use in Textile Applications
- Imparting Awareness on Stain Removal: A Step Towards Sustainable Consumption
- A Study on Conservation of Leather
- Analysis of Conservation Stitches on Silk Textiles
- Indian Mulberry Silk-Analysis of Environmental Impact using Life Cycle Assessment Tool
- Evaluation of Environmental Performance of Recycled Cotton yarn viz-a-viz Virgin Cotton Yarn: A Life Cycle Assessment Case Study
- Water Conservation in Denim Manufacturing
- Development of Mosquito Repellent Formulation from Neem Oil and Sweet Orange Oil
- Assessment of solar government initiatives in residential areas in India (Ongoing)
- Assessment of solar skill development programs: A multi stakeholder perspective (Ongoing)
- Capacity building towards IAQ: A study in schools of Delhi (Ongoing)
- Assessment of health and safety of construction workers (Ongoing)

- Plastic waste management issues and challenges at household level in Delhi (Ongoing)
- Assessment of eco-sustainable practices for e-waste management
- Role of stakeholders in eco-efficient practices towards packaging materials used for fast moving consumer goods (FMCG)
- Workers' well-being in Textile Industry/Apparel Industry: A study in Delhi NCR, Punjab, selected districts of Haryana (8 researches)
- Disaster Management Plan for Preparedness at Educational Institutions in Delhi, A Case Study
- Place-making in Urban Design: Focus on sustainable Landscaping
- Sustainability in Interior Design Using the Concept of Refurbishing: A Study in Selected Restaurants of Delhi, NCR
- Prevention through Design: Workplace Safety for Metal Workers in Small Enterprises
- Imparting Awareness on Stain Removal: A Step Towards Sustainable Consumption
- A Study on Pre-Consumer Waste Generated in Garment Manufacturing Units in Delhi
- Role of Social Media Advertising and Sustainable Consumption: A Study in Delhi

