SUSTAINABLE ENVIRONMENT AND GREEN CAMPUS OF IGNOU (2020-2025)

Indira Gandhi National Open University
New Delhi - 110068

"शिक्षा मानव को बन्धनों से मुक्त करती है आज के युग में तो यह लोकतन्त्र की भावना का आधार भी है। जन्म तथा अन्य कारणों से उत्पन्न जाति एवं वर्गगत विषमताओं को दूर करते हुए मनुष्य को इन सबसे ऊपर उठाती है।"

– इन्दिरा गाँधी

"Education is liberating force, and in our age it is also democratising force, cutting across the barriers of caste and class, smoothing out inequalities imposed by birth and other circumstances."

- Indira Gandhi

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Foreword

Indira Gandhi National Open University (IGNOU) has consistently endeavoured to integrate sustainability and environmental responsibility into its institutional culture. The University's journey from a barren tract of land to a vibrant, green, and biodiverse campus stands as a testimony to this commitment. The transformation has been nurtured through the dedicated work of the Horticulture Cell, the greening of the campus, and the development of thematic gardens, which now form a rich and inspiring learning environment.

This report on Sustainable Environment and Green Practices at IGNOU presents a comprehensive account of the University's wide-ranging initiatives. It documents the floral and faunal biodiversity of the campus, management of vital water resources including rainwater harvesting, and the rational assessment of water usage. It further highlights the adoption of renewable energy sources, particularly the solar photovoltaic power plant, as part of IGNOU's vision of reducing its carbon footprint.

A major emphasis has also been placed on waste management practices, such as maintaining a plastic-free campus, e-waste collection and management, innovative upcycling, agro-waste utilization, and sustainable disposal of paper. These efforts are complemented by green energy practices, installation of a weather forecasting station, promotion of paperless offices, introduction of academic programmes addressing sustainability, and simple yet meaningful gestures such as honouring guests with saplings. Provisions for eco-friendly transportation, charging points for e-vehicles, and digital feedback tools aligned with Mission LiFE add further dimensions to IGNOU's sustainability ecosystem.

Importantly, these initiatives extend beyond the headquarters to the Regional Centres, reflecting IGNOU's pan-India presence. The University's active participation in Government-led schemes and programmes, including Swachhata Pakhwada and the celebration of national festivals, demonstrates its integration of sustainability with civic responsibility and cultural values.

The report also captures the awards and accolades received by IGNOU in recognition of these efforts, and outlines the way forward to strengthen its role as a national and global exemplar in sustainable higher education.

I commend the team for compiling this valuable document, which not only chronicles IGNOU's achievements in greening and sustainability but also serves as a roadmap for future action. I hope it will inspire our learners, faculty, and the wider community to embrace sustainable practices as an essential part of education and life.

Prof. Uma Kanjilal
Vice Chancellor
Indira Gandhi National Open University

Acknowledgment

In alignment with the strategic objectives of the Indira Gandhi National Open University (IGNOU), and in view of its continued commitment to institutional excellence, the Centre for Internal Quality Assurance (CIQA) undertook the task of developing a comprehensive calendar of activities to guide and support preparations for the second cycle of NAAC accreditation and the NIRF 2026 ranking process. These activities were designed to address critical domains, including NAAC-related documentation and data validation, National Education Policy (NEP) 2020 implementation, data capturing and analysis for the National Institutional Ranking Framework (NIRF), and the development of Standard Operating Procedures (SOPs), policy documents and best practices to streamline internal processes and ensure compliance with national quality benchmarks.

To accomplish this multifaceted undertaking in a time-bound and systematic manner, the Hon'ble Vice Chancellor constituted a series of committees comprising academic and administrative professionals from across the University. Each committee was entrusted with a specific thematic area, with the responsibility of planning, preparing, and reviewing documentation and institutional practices in accordance with the evolving frameworks of quality assurance and regulatory expectations.

The Centre for Internal Quality Assurance (CIQA) sincerely acknowledges and appreciates the outstanding commitment, scholarly engagement, and collaborative spirit demonstrated by all committee members. Their meticulous attention to detail, academic rigour, and deep understanding of the institutional processes were critical to the successful preparation of comprehensive and credible documentation in support of the University's goals. The committee members undertook additional responsibilities beyond their regular duties, working diligently to collate data, contribute to narrative reports, validate evidence, and ensure alignment with national quality parameters.

In the preparation of this document, the Committee undertook a rigorous and systematic review of the energy, green and environment and water audits conducted during 2022-23. Information was also obtained from CIQA report on Mission LiFE, Horticulture Cell, CMD, SOS and SOITS.

The committees' collective efforts have greatly strengthened the University's internal quality systems and have contributed meaningfully to projecting IGNOU's distinct status as a national resource in the field of open and distance and online education. Their work reflects not only professional excellence but also a shared vision of advancing IGNOU's mission of inclusive and quality higher education across the country and beyond.

CIQA places on record its deep gratitude to the Hon'ble Vice Chancellor for her support, insightful leadership and guidance. Above all, CIQA extends its heartfelt thanks to each member of the preparation team for their valuable contributions, without which the timely completion of this critical institutional endeavour would not have been possible.

Prof. Vijayakumar P.
Director, CIQA
Indira Gandhi National Open University

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1. The IGNOU Campus: Transformation from Barren Land to Biodiverse Haven

The Indira Gandhi National Open University (IGNOU) campus (Fig. 1), established in 1985, was allocated 150 acres of undulating land in Maidan Garhi village, nestled within the Delhi Southern Ridge, a crucial extension of the ancient Aravalli ranges, which date back approximately 1,500 million years. The terrain, characterized by rugged rocky outcrops, sparse vegetation, and patches of barren soil, presented significant challenges for the newly established university. However, this unique landscape held immense geological significance and ecological value, supporting a variety of native flora and fauna adapted to the harsh environment.

In 1988, temporary structures were developed in the Maidan Garhi campus, marking the early phase of its establishment. By 1989, the entire university was consolidated and shifted to its permanent campus at Maidan Garhi, New Delhi. This relocation brought together various university operations previously scattered across different locations in Delhi, enabling IGNOU to streamline its administrative and academic functions. The main campus at Maidan Garhi provided a centralized and expansive space, facilitating the growth and development of IGNOU as a premier institution of ODL and Online learning modes in India. The IGNOU headquarters campus is a unique blend of natural landscape and institutional infrastructure. Over the past decades, IGNOU has taken proactive steps toward environmental sustainability, not only preserving the existing natural ecosystem but also enriching it through systematic greening and landscaping efforts.

Figure 1 Geospatial Map of IGNOU (Source: Google maps)

1.1 Horticulture Cell

Recognizing the importance of preserving and enhancing this natural heritage, IGNOU prioritized ecological restoration and campus greening from the very beginning. The University's Construction and Maintenance Division (CMD) was initially responsible for horticultural activities. Till 1998, the horticulture cell was part of the Construction and Maintenance Division (CMD) of the university. In July 2001, a Plantation Committee was constituted by the Vice-Chancellor to supervise the horticulture work and landscaping of the campus. During September 2001, this committee was renamed as Horticulture Committee. On the recommendation of the Horticulture Committee, the Horticulture Cell was established by 73rd BOM vide resolution no. 73.6.1. The Cell became functional with effect from 25th October 2002. The objectives of the Horticulture Cell are:

- To conduct plantation and landscaping initiatives within the campus premises;
- To enhance the development of gardens for improved aesthetics and functionality;
- To engage in the propagation of various plant species;
- To implement strategies for the recycling of agro-waste generated on campus; and
- To focus on the cultivation and development of potted plants.

1.2 Greening of the Campus

The campus is recognized as a green lung in the urban expanse of the National Capital Region (NCR), contributing significantly to biodiversity conservation, groundwater recharge, and air quality improvement, while also creating a conducive and serene environment for academic and administrative pursuits.

To achieve this, the University's Horticulture Cell has spearheaded several scientific and aesthetic initiatives under a comprehensive greening plan. Over 16 major green interventions have been implemented, including the establishment of specialized gardens such as the Aman Vatika, Sanchar Vatika, and Gyan Vatika, alongside functional green zones like the Guest House Garden, gardens near the Convention Centre and Vice-Chancellor's Office, and rooftop gardens near the Electronic Media Production Centre (EMPC). A dedicated nursery has been developed for in-house production of ornamental and fruit plants, supported by facilities such as a Cacterium, net-houses for protecting plants during extreme summers, and a plastic house for seedling production in monsoon and winter. Two fruit garden blocks and a seasonal flower production unit further enhance the biodiversity. Moreover, a solar-powered irrigation system has been installed in the nursery to promote energy-efficient and sustainable water use practices. In the Residential Complex, two large lawns and multiple gardens have been developed for community engagement and recreational activities. Together, these green spaces not only enhance the visual and ecological value of the campus but also serve as living laboratories for environmental education, aligned with IGNOU's mission of integrating sustainability into open and distance learning systems.

The initiatives aimed not only to transform the desolate terrain into a thriving green campus but also to create a conducive environment for education and reflection. Over the years, dedicated efforts in afforestation, soil conservation, and biodiversity promotion have helped restore the landscape, turning the IGNOU campus into a verdant oasis that exemplifies sustainable development while preserving the area's natural beauty and ecological balance. These efforts have not only enhanced the aesthetic appeal of the campus but also contributed significantly to biodiversity conservation.

The Horticulture Cell is responsible for the maintenance of the gardens and the enrichment of the greenery in the Campus including the forest area by planting of trees, plants and seeds round the year.

Other measures adopted are: extensive manuring of the plantation through use of organic manure to improve the water permeability and retention of moisture of the soil; mulching of trees and other small plants using dried leaves and other biomass in the summer season for conserving the moisture; regular training of the plants and pruning throughout the year; propagation of plants; developing seasonal flowering and foliage including potted plants for decoration purposes. The Cell develops compost by two methods of composting i.e., NADEP and Vermicomposting.

1.3 Current Land Use Distribution

The spatial layout of IGNOU has been carefully designed to balance built-up infrastructure with open and landscaped spaces. The permanent academic and administrative buildings cover a total ground area of 18,204.959 square meters (see Table 1.1). These include the main academic blocks (A to G), the Electronic Media Production Centre (EMPC), the Convertion Centre, guest houses, and the Vice Chancellor's office. The architectural planning reflects a decentralized structure, consistent with the open learning philosophy of the University, facilitating accessibility and seamless movement across different zones of the campus.

In parallel with its built infrastructure, IGNOU has prioritized the development of green zones throughout the campus. These zones serve both aesthetic and environmental functions, promoting biodiversity, reducing heat island effects, and contributing to the well-being of the academic community. The total landscaped garden area within the IGNOU campus is approximately 175,724 square meters, inclusive of formal gardens, thematic plantations, and recreational green spaces (see Table 1.2).

The campus includes specially designated thematic green spaces such as Gyan Vatika and Aman Vatika, which serve as contemplative gardens for reflection and interaction. The Medicinal Garden and Fruit Garden are indicative of IGNOU's commitment to environment protection and biodiversity conservation. These areas are integrated into the academic environment, offering

Table1.1: Ground Coverage of the existing Permanent Buildings

S. No	Description	Ground Coverage (Sq. m.)
1	Academic Blocks A & B	2547.621
2	Academic Block C	1472.668
3	Academic Block D	1732.796
4	Academic Block F	1828.169
5	Academic Block G	1828.169
6	EMPC Building	3414.475
7	Convertion Centre	2236.985
8	V.I.P Guest House	624.704
9	VC Office	793.667
10	Guest House 1	593.000
11	Guest House 2	664.807
12	Regional Centre	467.700
Total ground coverage		18204.959

Source: IGNOU Records

Table 1.2: Garden Area in the Campus

Description	Total Covered Space (Sq. m.)
Temporary campus	3500
DEC building	5000
Gyan Vatika	4000
Aman Vatika	4500
Farm No.1	7000
Farm No.2	14000
Tri-junction	18000
Academic complex	25000
Guest House	6000
VC office	6500
Convention Centre	8000
Block No.16 & 17	7000
Medicinal Garden	5000
EMPC	13000
EMPC Roof Garden	720
Sanchar Vatika	13000
Fruit Garden	2000
Garden area in Residential Area (Sq .m.) Children Park	4214
Lawn use as a play ground	10400
Garden Residences	18890
Total Area	**175724**

Source: IGNOU Records

experiential learning opportunities for students and faculty engaged in disciplines like environmental science, sustainability, and natural resource management.

Additionally, the residential sector is enhanced by green buffers, gardens, children's parks, and lawns used as playgrounds fostering a healthy, inclusive living environment. The presence of rooftop gardens (e.g., on the EMPC) reflects an emerging sustainable design ethos aimed at optimizing space and reducing carbon footprints.

1.4 Gardens of the Campus

1.Aman Vatika Garden

The Aman Vatika was created at the site where a small pond and elevated rocky landscaped area existed. Small pieces of stones and boulders were collected from the campus and plastered for landscaping the garden. The Vatika provides ample space to sit and enjoy the serenity of the ecosystem.

2. Guest House Garden

There was a huge space available around the guest house. The landscaping was carried out and planting of shade providing plant sapling was carried out. Many palm trees were planted to enrich the aesthetics of the building.

3. Sanchar Vatika

As the name suggests, this small garden has been created around the building of Electronic Media Production Centre of the University. The vacant land around and in front of the building was landscaped and tree saplings were planted to improve the green coverage of the area. Hedges and edges have been created to beautify the landscape.

4.Garden at the Vice-Chancellor office

The land around the Vice Chancellor's office has been aesthetically designed to beautify and improve biodiversity. Many seasonal flowering plant species are planted during different seasons. Many fox tail palm and alpine tress have been planted to beautify the garden.

5. Garden at Convention Centre

The land around the University's Convention Centre has been landscaped into a garden by planting palm trees, many flowering and non-flowering plants species. The undulating physiography of the land has not been disturbed and landscaped aesthetically. Many indoor plants are also growing inside the building

6. Gyan Vatika Garden

This garden has many varieties of plant species and it houses the nursery of the University.

7. Medicinal Garden

In this garden, around 60 medicinal plants are growing.

AmanVatika

Gyan Vatika

Sanchar Vatika

Sanchar Vatika

Temporary Campus Garden

Academic Complex Garden

DEC Building Garden

Residential Complex Garden

Medicinal Plants Garden

Fruits Garden

Guest House Garden

VC Office Garden

Convention Centre Garden

Residential Complex Garden

2. Floral and Faunal Biodiversity of the University

2.1 Flora

The Southern Ridge consisting of 6200 hectares is the biggest area of the Delhi Ridge. The forest of Delhi is being maintained for the environmental and ecosystem services being imparted by these forests. The Ridge Forest falls in the category of 'Tropical Thorn Forest' and more especially as 'Semi-Arid Open Scrub'. The native plants exhibit xerophytic adaptations such as stunted growth, thorny appendages, wax coated succulent leaves. The native Dhak or Palas is commonly known as the 'flame of the forest'. Ber (*Ziziphus mauritiana*) is a small thorny tree with greenish-yellow flowers and yellowish-red edible fruits. A number of other colorful and useful trees are found on the Ridge, such as Amaltash (*Cassia fistula*), Pongamia (*Derris indica*) etc. Other exotics include Neem (*Azadirachta indica*), Kadam (*Neolamarckia cadamba*), etc. Among the common native trees is the Babul (*Acacia nilotica*), its delicately- leafed branches contain deadly long thorns. Jangli karaunda (*Carissa spinarum*) is often seen on the Ridge, and is a bushy evergreen shrub. Some of the tree species suitable for controlling pollution are *Ficus religiosa* (Pipal), *Albizzia lebbek* (Siris), *Cassia fistula* (Amaltas), *Zizyphus jujube* (Ber), *Azadirachta indica* (Neem), *Dalbergia sissoo* (Shisham), *Ficus glomerata (Gular)*, *Ficus infectoria* (Pilkhan), *Alstonia scholaris* (Chitvan/ Chattaun) and *Acacia nilotica* (Desi kikar). These species are also helpful in reducing noise pollution by absorption, deflection, reflection, refraction and masking. Ridge of Delhi is also rich in medicinal plants. About 31 plant species of medicinal value have been reported from the Ridge.

The vegetation composition of university maintained by the Horticulture Cell, is considerably rich and diverse after implementation of the initiative of greening of the campus. Altogether a total of 100 species of plants are recorded that fall under about 100 families. The vegetation composition includes trees, shrubs and herbs. A large proportion is ornamental garden varieties, which is followed by trees, medicinal plants, trees of timber value and some native species.

More than 10,000 trees are being maintained in the campus. Main plant species comprises of Neem, Pilkhan, Pongamia, Sisham, Arjun, Jamun, Aonla, Imali, Kamrakh, Mango, Mahua, Kaitha, Alstronia, Molshri, Khirnii, Casurina, Ashok, Pipal, Ficus, Babul/Kikar, subabul etc. Ornamental plants of different spp. were planted at different sites of the campus. The potted foliage plants of the campus are Pothas, Oxycladium, Song of India, Dieffenbachia, Syngonium, Dracena, Euphorbia etc. The potted seasonal flowering plants of winter, summer and rainy season of species of plants such as Petunia, Pansy, Marigold, Stock, Chrysanthemum, Portulaca, Gallardia etc. was planted. Development of plantlets of different medicinal plants i.e. Aloe-vera, Neem, Patherchatta, Brahami, Giloy, Lemon grass, Tulsi etc., is being done on regular basis. The ornamental plants of campus are Ficus spp., Bougainvillea, Dieffenbachia, Coleus, Song of India, Hemalia, Rose, Nimboo etc. are propagated through different propagation techniques i.e. cutting, layering and seeds.

The list of plants species found in the campus is presented in Table 2.1. The list of medicinal plants is given in Table 2.2.

Table 2.1: List of Trees/Shrubs/Herbs Species found on IGNOU Campus

S.No.	Botanical name	Family	Common name
1	*Alstonia scholaris*	Apocynaceae	Alstonia
2	*Cassia fistula*	Fabaceae	Amaltash
3	*Phyllanthus emblica*	Phyllanthaceae	Aonla
4	*Terminalia arjuna*	Combretaceae	Arjun
5	*Vachellia nilotica*	Fabaceae	Babool
6	*Melia azedarach*	Meliaceae	Bakayan
7	*Kigelia pinnata*	Bignoniaceae	Balam Khera
8	*Ficus benghalensis*	Moraceae	Bargud or banyan tree
9	*Ziziphus jujuba*	Rhamnaceae	Ber
10	*Callistemon citrinus*	Myrtaceae	Bottlebrush
11	*Calliandra spp.*	Fabaceae	Calliandra
12	*Casuarina equisetifolia*	Casuarinaceae	Casuarina
13	*Chukrasia tabularis*	Meliaceae	Chukrasia
14	*Dillenia indica*	Dilleniaceae	Chalta
15	*Plumeria spp.*	Apocynaceae	Champa
16	*Holoptelea integrifolia*	Ulmaceae	Chil- bil
17	*Albizia lebbeck*	Fabaceae	Siris
18	*Pithecellobium dulce*	Fabaceae	Jungle jalebi or monkey pod
19	*Pterospermum acerifolium*	Malvaceae	Kanak champa
20	*Bergera koenigii*	Rutaceae	Karipattha
21	*Annona squamosa*	Annonaceae	Custard apple
22	*Butea monosperma*	Fabaceae	Dhak
23	*Dombeya spectabilis*	Malvaceae	Dombiyo
24	*Ficus benjamina*	Moraceae	Benjamina Fig or Weeping Fig
25	*Ficus carica*	Moraceae	Fig
26	*Caryota urens*	Arecaceae	Fish tail palm
27	*Citrus spp.*	Rutaceae	Citrus group
28	*Psidium guajava*	Myrtaceae	Guava
29	*Ficus racemosa*	Moraceae	Gular
30	*Delonix regia*	Fabaceae	Gulmohar
31	*Nyctanthes arbor-tristis*	Oleaceae	Har-Shringar
32	*Syzygium cumini*	Myrtaceae	Jamun
33	*Bauhinia purpurea*	Fabaceae	Kachnar
34	*Neolamarckia cadamba*	Rubiaceae	Kadam
35	*Crescentia cujete*	Bignoniaceae	Kamandal
36	*Nerium spp*	Apocynaceae	Kaner
37	*Pongamia pinnata*	Fabaceae	Karanj
38	*Limonia acidissima*	Rutaceae	*Kaitha* or *Wood apple*
40	*Ficus panda*	Moraceae	Indian Laurel Fig

41	*Jasminum spp.*	Oleaceae	Chemali
42	*Artocarpus heterophyllus*	Moraceae	Jack fruit
43	*Schleichera oleosa*	Sapindaceae	Kusum
44	*Cordia myxa*	Boraginaceae	Lasoda
45	*Mangifera indica L*	Anacardiaceae	Mango
46	*Polyalthia longifolia*	Annonaceae	Ashoka Tree
47	*Tabernaemontana divaricata*	Apocynaceae	Chandani
48	*Lagerstroemia speciosa*	Lythraceae	Lagerstroemia
49	*Spathodea spp.*	Bignoniaceae	Spathodium
50	*Leucaena leucocephala*	Fabaceae	Shoo- babool
51	*Tabebuia cassinoides*	Bignoniaceae	Tabebuia
52	*Ficus krishnae*	Moraceae	Krishan Fig
53	*Jacaranda mimosifolia*	Bignoniaceae	Jacaranda
54	*Azadirachta indica*	Meliaceae	Neem
55	*Manilkara zapota*	Sapotaceae	Chickoo (Sapota)
56	*Aegle marmelos*	Rutaceae	Bael
57	*Averrhoa carambola*	Oxalidaceae	Carambola or Star fruit
58	*Tamarindus indica*	Fabaceae	Imli (Tamarind)
59	*Prunus persica*	Rosaceae	Peach
60	*Dalbergia sissoo*	Fabaceae	Shisham
61	*Moringa oleifera*	Moringaceae	Sahajhan

Compiled by Horticulture Cell, IGNOU

The University is home to a rich diversity of medicinal plants, comprising more than 51 different families. A detailed list of the medicinal plants found on the IGNOU campus is given below in Table 2.2.

Table 2.2: List of Medicinal Plant species at IGNOU

S. No	Botanical name	Family	Common name
1.	*Phyllanthus emblica*	Phyllanthaceae	Aonla
2.	*Terminalia arjuna*	Combretaceae	Arjun
3.	*Argyreia speciosa*	Convolvulaceae	Vidhera
4.	*Ricinus communis*	Euphorbiaceae	Arandi
5.	*Withania somnifera*	Solanaceae	Ashwagandha
6.	*Rauvolfia serpentina*	Apocynaceae	Sarpegandha
7.	*Cymbopogon spp.*	Poaceae	Lemon Grass
8.	*Mentha*	Lamiaceae	Mint
9.	*Euphorbia tithymaloides*	Euphorbiaceae	Pedilanthus
10.	*Achyranthes aspera*	Amaranthaceae	Latejira
11.	*Azadirachta indica*	Meliaceae	Neem
12.	*Cassia fistula*	Fabaceae	Amaltas
13.	*Carica papaya*	Caricaceae	Papaya

14.	*Averrhoa carambola*	Oxalidaceae	Kamrakh
15.	*Vitex negundo*	Lamiaceae	Nirgundi
16.	*Piper longum*	Piperaceae	Pipali
17.	*Jatropha curcas*	Euphorbiaceae	Jatropha
18.	*Phyllanthus niruri*	Phyllanthaceae	Bhumi Aonla
19.	*Anacyclus pyrethrum*	*Asteraceae*	Akarkera
20.	*Quercus alba*	Fagaceae	White oak
21.	*Ocimum spp.*	Lamiaceae	Tulsi
22.	*Barleria prionitis*	Acanthaceae	Kala Bansha
23.	*Mimosa pudica*	Fabaceae	Touch me not
24.	*Dalbergia sissoo*	Fabaceae	Shisham
25.	*Tecoma stans*	Bignoniaceae	Tecoma
26.	*Ziziphus mauritiana*	Rhamnaceae	Ber
27.	*Aegle marmelos*	Rutaceae	Bael
28.	*Asparagus racemosus*	Asparagaceae	Shatavari
29.	*Curcuma longa*	Zingiberaceae	Turmeric
30.	*Solanum nigrum*	Solanaceae	Makoi
31.	*Datura stramonium*	Solanaceae	Datura
32.	*Tribulus terrestris*	Zygophyllaceae	Gokhru
33.	*Cynodon dactylon*	Poaceae	Doove Grass
34.	*Allium sativum*	Amaryllidaceae	Garlic
35.	*Annona squamosa*	Annonaceae	Custard Apple
36.	*Grevillea robusta*	Proteaceae	Silver oak
37.	*Putranjiva roxburghii*	Putranjivaceae	Putranjiva
38.	*Bergera koenigii*	Rutaceae	Kadi patta
39.	*Moringa oleifera*	Moringaceae	Sehjan
40.	*Musa spp.*	Musaceae	Banana
41.	*Limonia acidissima*	Rutaceae	Kaitha
42.	*Manilkara zapota*	Sapotaceae	Sapota
43.	*Aloe barbadensis*	Asphodelaceae	Aloe vera
44.	*Tagetes erecta*	Compositae	Marigold
45.	*Eclipta alba*	Asteraceae	Bhringraj
46.	*Trachyspermum ammi*	Apiaceae	Ajwain
47.	*Lawsonia inermis*	Lythraceae	Henna
48.	*Santalum album*	Santalaceae	Sandal Tree
49.	*Syzygium cumini*	Myrtaceae	Jamun
50.	*Hibiscus rosa sinensis*	Malvaceae	Hibiscus
51.	*Asparagus racemosus*	Asparagaceae	Asparagus

Source: Horticulture Cell, IGNOU

Gulmohar (*Delonix regia*)

Cassia *(Cassia fistula)*

Jasmine
(Tabernaemontana divaricate)

Oleander *(Nerium oleander)*

Kamandal (*Crescentia cujete*)

Dhak (*Butea monosperma*)

Kadam (*Anthocephalus cadamba*)

Semal (*Bombax ceiba*)

Neem (*Azadirachta indica*)

2.2 Fauna

The campus is also rich in faunal diversity. The campus even though it is a part of the Ridge but since it is located in a human dominated area the Ridge Forest area surrounding the campus and also a few pockets within the campus, is characterized by the presence of small mammals like common Mongoose, Palm Squirrel, Rufous Tailed Hare, Rhesus Monkey, Small Indian Civet and Jackals. It also holds the capability to sustain mammals of greater body weight like the Nilgai (Asian Antelope). Some other mammals found in the area include Jungle Cat, Palm Civet, Flying Fox, Porcupine, Indian Pipistrelle, Fulvous Fruitbat, Bush Rat, Ship Rat, Grey Musk Shrew, Lesser Bandicoot Rat, Little Indian Mouse, etc. The area also harbours a variety of reptiles like Monitor Lizard, Garden Lizard, Fan-throated Lizard, Spectacled Cobra, Common Krait, Wolf Snake, Rat Snake, Common Sandboa, Saw-scaled Viper, etc.

Amphibians like the Common Toad, Bullfrog, Indian Skipper Frog, Marbled Toad, etc. are also reported on the Delhi Ridge. The area also harbours a large number of butterflies such as Common Banded Awl, Small Grass Yellow, Salmon Arab, Tailless Lime Blue, Plain Tiger, Blue Pansy, etc. and dragonflies like Common Clubtail, Pied Paddy Skimmer, Crimson Marsh, Glider, Ground Skimmer, etc. Records indicate that around 110 species of resident birds and 200 species of migratory birds can be seen on Delhi Ridge. Ridge is said to be paradise for bird watchers. These include Little Grebe, Little Cormorant, Cattle Egret, Peregrine Falcon, Grey Fancolin, Brownheaded Barbet, Coppersmith Barbet, Alexandrine Parakeet, Spotted Owlet, Spotted Dove, Jungle Prinia, Red Whiskered Bulbul, Oriental Magpie Robin, Pied Bushchat, Orange-headed Thrush, among others.

Many bird species and animals are found in the campus. The campus habitat also harbours many species of reptiles, amphibians and mammals. The reptiles found in the campus includes, common garden lizard, Monitor Lizard, and many snake varieties. In addition to the above, the campus has good diversity of butterflies and moths, dragonflies and, spiders and many other pollinators and plant pest insects.

Peacock (*Pavo cristatus)*

Red-vented Bulbul (*Pycnonotus cafer*)

Large Green Barbet (*Megalaima zeylanica*)

Black drongo (*Dicrurus macrocercus*)

Indian Golden Oriole (*Oriolus kundoo*)

Rufous Treepie (*Dendrocitta vagabunda*)

Common Duck (*Anas Platyrhynchos*)

Oriental Lizard (*Calotes versicolo)*

Butterflies

Nilgai (*Boselaphus tragocamelus*)

Rhesus Monkey (*Macaca mullata*)

Monitor Lizard (*Varanus indicus*)

Indian Python (*Python molurus*)

3. Water Resources at IGNOU

The water supply at IGNOU is met through various sources. The daily water requirement is approximately about 5.5 lakhs litres and respective pipelines and motors are equipped to provide necessary water supply to residential quarters and office premises.

3.1 Sources of Water Supply

The water supply is being met mainly through Delhi Jal Board Water Supply through pipelines and water tankers and through tube wells. IGNOU has four underground Reinforced Concrete Water Tanks (RCC) located and overhead tanks at different places. The underground reinforced water tank (RCC) facility at IGNOU and details of the 10 tube wells in the campus are presented in Tables 3.1 and 3.2. Two pumps 65HP/48KW for water supply run 2 hours daily and bore well pump sets 25HP/48KW run 20 hours daily. Figure 2 gives the locations of the borewells on the campus.

The University has two sewage treatment plants of capacity 200 KLD CUM and 100 K LD CUM at campus and is functional since 1997-98. The water treated in respective STPs is being made available for Horticulture activities which is about 1,50,000 litres per day. The revamping of the said STPs is also being done through CPWD for its effective functioning.

Table 3.1: Underground Reinforced Concrete Water Tanks (RCC)

Number	Location	Storage Capacity (in Lakhs litre)	Year of Construction	Pump sets (Horse Power)
1	Near PNB	8.00	2007	40
2	Temporary campus	1.0	1989	3
3	Near CMD	9.00	1997-98	10
4	MGRC	6.00	2003-2004	12
	Total	23 lakhs litre		65 HP

Source: IGNOU records

Water Storage Tanks at IGNOU

Table 3.2: Details of University Tube wells

Sl. No.	Tube well No.	Location	Yield/ day	Rated (HP)	Type of Pumps
1.	Tube-well No. 5	VIP Guest House	15,000	2	Submersible
2.	Tube-well No. 7	Shopping Complex	35,000	5	Submersible
3.	Tube-well No. 8	Type IV	10,000	2	Submersible
4.	Tube-well No. 9	Near STP/Behind Ganga	30,000	4	Submersible
5.	Tube-well No.10	Near EMPC	40,000	4	Submersible
6.	Tube-well No.11	In between Academic Block A & B	20,000	2	Submersible
7.	Tube-well No.12	Near AC Plant/ Academic Block	20,000	2	Submersible
8.	Tube-well	Near warehouse No.3 & 4	40,000	4	Submersible
9.	New tube- well	Near sub- station No.2	30,000	5	Submersible
10.	New tube- well	Near old tube-well No.4	10,000	5	Submersible
	Qty. of water received from tube-wells		2,50,000	35	Submersible

Source: IGNOU records

3.2 Rain Water Harvesting

At present in IGNOU, 8 rainwater harvesting (RWH) pits have been constructed in the campus with a purpose of ground water recharge. The RWH pits are constructed at IGNOU based on the drawing provided by Central Ground Water Board. Govt. of India. The University is constructed at reduced level of 244.4 to 268.00 meters, hence the rainwater during the rainy season is directly discharged to these pits. IGNOU buildings are constructed in hilly and green area and there is no contamination of ground water being discharged in these pits. The size of individual RWH pits internal dimensions is given in Table 3.3.

Table 3.3: Rainwater Harvesting Pits

S. No.	Description (L X B X D)	Location
1.	8.70 mtr. X 2.10 mtr. X 1.65 mtr.	Block – 11
2.	6.10 mtr. X 1.20 mtr. X 0.90 mtr.	Block- 7
3.	8.55 mtr. X 2.20 mtr. X 1.40 mtr.	Warehouse- 2
4.	8.25 mtr. X 1.84 mtr. X 1.85 mtr.	V.C. Office
5.	6.18 mtr. X 2.11 mtr. X 1.38 mtr.	V.C. Office
6.	4.68 mtr. X 1.25 mtr. X 0.25 mtr.	Near Tube-well No.8
7.	5.60 mtr. X 1.70 mtr. X 1.60 mtr.	Near Tube-well No. 6
8.	5.10 mtr. X 1.75 mtr. X 1.10 mtr.	Near STP-3

Source: IGNOU records

Figure 2: Survey Plan Showing Borewell Locations

3.3 Water Usage Assessment

The daily water requirement is approximately about 5.5 lakhs liters and respective pipelines and motors are equipped to provide necessary water supply to residential quarters and office premises. The same water is also used in University washrooms, urinals and residential campus. Table 3.4 represents the details of the men's/ women's toilets, washbasins, taps and other details to give the water usage consumption pattern at the University. Use of water is for office complex, guest house and residential building. The point of entry of water is through pumping to overhead tanks of the buildings and after usage exit of waste water through sewerage system to STPs and septic tanks. Total 5455 taps are available in the University. The amount of water used in each of the buildings cannot be measured as no separate meters are available. Total 607 toilet/ urinals are available in the University out of which 46 are in the Guest House, 18 Nos. are in the VIP Guest House and 543 Nos are in the residential complex.

Table 3.4: Details of Toilets in IGNOU

S.No	All Departments/ Schools/ Centres/ Buildings premises	Men's Toilets					Women's Toilets				Water Purifiers
		Total Number of Washrooms	Urinals	Flush Capacity Cisterns Double/ Single	Wash basins	Taps	Toilets	Flush Capacity Cisterns Double/ Single	Wash basins	Taps	
1.	Block-1	3	3	4	4	12	3	3	3	7	01
2.	Block-2	3	3	3	4	10	3	3	3	7	01
3.	Block-2A	2	2	3	2	4	2	2	2	4	-
4.	Block-3	3	3	3	4	11	3	3	3	7	01
5.	Block-4	3	3	3	4	12	3	3	3	7	01
6.	Block-5	3.	3	3	3	10	3	3	3	7	01
7.	Block-5A	2	2	3	2	5	2	2	2	4	-
8.	Block-6	3	2	1	2	8	3	3	3	10	01
9.	Block-6A	-	-	-	-	-	-	-	-	-	-
10.	Block-6B	2	3	2	3	10	-	-	-	-	01
11.	Block-7	3	3	5	5	14	3	3	3	7	01
12.	Block-8	10	4	10	10	28	-	-	-	-	01
13.	Block-9	1	2	1	2	5	-	-	-	-	01
14.	Block-9A	-	-	-	-	-	-	-	-	-	-
15.	Block-10A	2	2	3	2	5	2	2	2	2	-
16.	Canteen	1	-	1	7	10	-	-	-	-	01
17.	Creche	1	-	2	3	9	-	-	-	-	01
18.	Block-11	3	3	2	3	9	2	2	2	5	01
19.	Block-12	5	2	5	4	12	4	4	4	8	01
20.	Block-13	2	2	4	4	9	2	2	2	5	-
21.	Block-14	4	2	5	4	12	2	2	2	5	01
22.	PIU	1	1	2	1	4					01
23.	SSC	3	2	4	3	9	2	2	2	4	01

24.	IGNOU Main gate	1	1	1	1	3	-	-	-	-	-
25.	CDU	3	3	4	3	8	1	1	1	2	01
26.	Horticulture Cell	-	-	-	-	-	-	-	-	-	01
27.	Warehouse 3&4	2	2	3	1	3	2	2	1	3	01
28.	Warehouse 1&2	1	2	2	1	5	-	-	-	-	01
29.	MPDD, Office, Warehouse	4	4	7	4	12	3	3	2	6	02
30.	Packers block	1	2	1	1	3	-	-	-	-	
31.	DEC	6	4	6	6	16	4	4	4	9	01
32.	Block-15 (GF)	3	7	5	5	19	3	3	3	6	01
33.	Block-15 (FF)	3	7	5	5	19	3	3	3	6	01
34.	Block-15 (SF)	3	7	5	5	19	3	3	3	6	01
35.	Block-16	8	5	5	10	5	-	-	-	-	01
36.	Block-17		10	6	11	17	6	-	-	-	
37.	EMPC	7	6	7	9	22	6	6	6	12	
38.	Convention Centre	-	17	26	29	55	26	-	-	-	
39.	VIP Guest House	1	2	4	2	4	1	2	2	4	
40.	Guest House	1	2	4	2	4	1	2	2	4	
41.	Research Unit	-	1	4	4	8	4	-	-	-	
42.	CMD (B-16)	2	4	2	3	8	2	1	1	2	
43.	Academic Different Blocks	-	5	93	96	158	91	-	-	-	
44.	V.C. Office	3	5	6	6	12	3	6	6	12	
45.	Health Centre	1		1	1	3	1	1	1	4	
46.	L&DD	-	-	-	-	-	-	-	-	-	
47.	New SRE Bldg.	-	-	-	-	-	-	-	-	-	

Source: IGNOU records

The estimated water usage pattern of the different buildings is given in the following tables.

Table 3.5: Water usage pattern of Temporary campus building

S. No.	Tap no.	Type of the tap (Plastic/ brass etc.)	Condition (Poor/ Moderate/ Good)	Average number of people using per day	Average time per head per day	Average amount of water releasing per minute	Leaking or not	If leaking average amount of water loss per minute
1	255	100 (PTMT) 155 (CP Brass)	Good	2000 Nos.	9 hrs./ day	Total consumption of water around 70,000 litres per day	No	No

Source: IGNOU records

Table 3.6: Water usage pattern of DEC Building

S. No.	Tap no.	Type of the tap (Plastic/ brass etc.)	Condition (Poor/ Moderate/ Good)	Average number of people using per day	Average time per head per day	Average amount of water releasing per minute	Leaking or not	If leaking average amount of water loss per minute
1	21	CP Brass	Good	100	9 hrs./ day	Total consumption of water around 5,000 litres per day	No	No

Source: IGNOU records

Table 3.7: Water usage pattern of Block No.15, Vivekanand Bhawan

S. No.	Tap no.	Type of the tap (Plastic/ brass etc.)	Condition (Poor/ Moderate/ Good)	Average number of people using per day	Average time per head pre day	Average amount of water releasing per minute	Leaking or not	If leaking average amount of water loss per minute
1	48	10 (PTMT) 38 (CP Brass)	Good	350	9 hrs./ day	Total consumption of water around 15,000 litres per day	No	No

Source: IGNOU records

Table 3.8: Water usage pattern of Academic Complex (VCO, VIP Guest House, Guest House, Convention Centre, CMD office, Block No. 16 and Block No.17, Research Unit

S. No.	Tap no.	Type of the tap (Plastic/ brass etc.)	Condition (Poor/ Moderate/ Good)	Average number of people using per day	Average time per head per day	Average amount of water releasing per minute	Leaking or not	If leaking average amount of water loss per minute
1	470	200 (PTMT) 270 (CP Brass)	Good	1500 Nos.	9 hrs./day	Total consumption of water around 1,00,000 litres per day	No	No

Source: IGNOU records

Table 3.9: Water usage pattern of EMPC

S. No.	Tap no.	Type of the tap (Plastic/ brass etc.)	Condition (Poor/ Moderate/ Good)	Average number of people using per day	Average time per head pre day	Average amount of water releasing per minute	Leaking or not	If leaking average amount of water loss per minute
1	32	5 (PTMT) 27 (CP Brass)	Good	200 Nos.	9 hrs./ day	Total consumption of water around 5,000 litres per day	No	No

Source: IGNOU records

Table 3.10: Water usage pattern of Residential Complex

1	440 (Type-I)	CP Brass	Good	220	24 hours/ day	Total consumption of water around 39,600 litres per day	No	No
2	1390 (Type-II)	CP Brass	Good	695	24 hours/ day	Total consumption of water around 1,25,100 litres per day	No	No
3	1792 (Type-III	CP Brass	Good	560	24 hours/ day	Total consumption of water around 1,00,800 litres per day	No	No
4	448 (Type-IV)	CP Brass	Good	140	24 hours/ day	Total consumption of water around 25,200 litres per day	No	No
5	580 (Type-V)	CP Brass	Good	100	24 hours/ day	Total consumption of water around 18,000 litres per day	No	No

Source: IGNOU records

The University undertakes the following activities to conserve water in the campus:

Ditches and Plant beds are created to collect the rainwater and recharge the ground water.

Extensive mulching using dried plant leaves and other biomass to protect moisture *in situ*.

Extensive Manuring in the plantation through organic manure to improve the water permeability and retention of moisture of the soil.

Cleaning the areas around the Rainwater harvesting sites to improve their efficiency.

4. Energy Resources at IGNOU

4.1 Energy Sources and Consumption

In the University the major source of electrical energy is the Grid. The BSES has established 66/11 kV Grid Power Station at IGNOU Campus. The University has 11 kV Grid connected electric supply from BSES with single HT bulk wheel to grid metering system with CA No.- 100012738.

From year 2020, the contract demand sanctioned from BSES is 2580 kVA for the billing purpose whereas the sanctioned load is 4127 kW.

The 06 substations and 05 centralized AC plants are being maintained and operated by CPWD as deposit work since December 2020.

Grid Power

The University has six Electric Sub-Stations namely 1, 2, 3, 4, 5 & 10 located within the campus for the purpose of distribution of electric supply to all office buildings, and Guest Houses. For residential quarters, the BSES is distributing the power supply to different quarters. from the Sub-stations maintained and operated by the BSES.

Table 4.1: Supply voltage - 11 kV

Substations	No. of Transformers 11 kV / 0.433 KV	Locations
ESS No.–1	1000 kVA – 02 Nos. (CG make) 01 No. For VCO/VIP Guest House & AC Plant, Block No.-16 & Research Unit 01 No. For Convention Centre AC Plant, Block-17	Nearby Block No.-17.
ESS No.–2	1500 kVA – 03 Nos. (VOLTAMP make) For all Academic Blocks & Academic AC Plant	Near AC plants meant for Academic Blocks.
ESS No.–3	11 kV feeder system and feeding to all 05 ESSs.	Nearby Warehouse No.-3 & 4.
ESS No.–4	1250 kVA – 02 Nos. (CG make) For EMPC building and its AC plant, Block No.-14, Warehouse No. – 3 & 4, DEC Building, Bank Building, Guest Houses, CMD, Horticulture Cell and pump house near CMD.	Nearby Block No.-16.
ESS No.–5	(i) 1000 kVA, 11 kV/0.433 V (universal make) (ii) 750 kVA, 11 kV/0.433 V (CG make) Feeding to All Temporary Blocks and PNB Building except block No.-14.	Near IGNOU Main Gate.
ESS No.–10	(i) 750 kVA, -For. Feeding to Block No.-15.	Behind Block No.-15

Source: IGNOU records

Table 4.2: Contract demand from BSES

Year	Contract Demand in kVA (For billing purpose)
2020-21	2580
2021-22	2580
2022-23	2580
2023-24	2580

Sanctioned Load –4127 kW/ 4298 kVA

Source: IGNOU records

Table 4.3: Details of Substations at IGNOU

S.No.	DG Details at Substations	Location and Connected Load
1.	ESS-1 160 kVA – 01 No., make Cummins 750 kVA – 01 No., make Cummins 380 kVA – 01 No., make Cummins	Near Block No.-17 feeding to Convention Centre, Block No.-16 & 17, V.C. Office, VIP Guest House & Research Unit.
2.	ESS-2 (i) 500 kVA– 02 Nos., make Cummins	Near AC Plant Academic Block. Feeding to all Academic Blocks.
3.	ESS-4 500 kVA–01 No., make Cummins 200 kVA–01 No., make Cummins	Adjacent Block No.-16. Feeding to EMPC, CMD, Data Centre, Block No.-14, Guest House & Pump House (near CMD).
4.	ESS-5 (i) 437.5 kVA -01 No. (ii) 200 kVA -02 No. (iii)125 KVA -01 No.	Near IGNOU Main Gate. Feeding to All Temporary Blocks and PNB Building except block No.-14.
5.	ESS-10 (i) 750 kVA -01 No.	Behind Block No.-15. Feeding to Block No.-15.

Source: IGNOU records

HT Net metering of BSES Sub Station

DG set 750KVA at ESS – 1

Transformer at ESS-1

LT panel ESS-1

750 KVA Transformer at ESS-5

1000KVA Transformer at ESS-5

437.5 KVA DG Set at ESS-5

200KVA DG Set at ESS-5

125 KVA DG Set at ESS-5

500KVA DG set at ESS-2

750 KVA Transformer at ESS-10

The details of the electricity utilized from the Grid is given in Tables 4.4 to 4.7.

Table 4.4: Electricity from Grid for the Financial Year: 2020-2021

Month	P.F.	MDI (KVA)	Unit Consumed (kWh)	Billing period	Net Metering Total Amount i/c applicable taxes etc.
April	1.00	300	123420	12.04.2020 – 11.05.2020	20,43,010/-
May	1.00	540	160620	12.05.2020 – 11.06.2020	24,61,990/-
Jun	0.998	660	194700	12.06.2020 – 11.07.2020	28,15,700/-
July	0.992	1080	243960	12.07.2020 – 11.08.2020	33,61,680/-
Aug	0.98	1080	281760	12.08.2020 – 11.09.2020	37,23,260/-
Sept	0.975	1520	394920	12.09.2020 – 11.10.2020	48,32,940/-
Oct	0.986	1740	251040	12.10.2020 – 11.11.2020	28,18,520/-
Nov	0.997	540	128820	12.11.2020 – 02.12.2020	20,31,330/-
Dec	0.96	1260	349080	03.12.2020 – 19.01.2021	51,31,470/-
Jan	0.96	900	159840	20.01.2021 – 11.02.2021	24,50,150/-
Feb	0.96	900	141780	12.02.2021 – 12.03.2021	24,40,560/-
Mar	0.96	1200	200160	13.03.2021 – 12.04.2021	26,40,420/-
Total			26,30,100		3,67,51,030/-

Energy Consumption (2020-2021)

Cost Per Unit @ 8.50/-

Electricity Consumption per year-26,30,100 kWh

- Winter Load per year (Oct-Mar) - 12,30,720 kWh
- Summer Load per year (Apr-Sep) – 13,99,380 kWh

Energy Cost per year -Rs. 3,67,51,030/-

*It can be noted that due to Pandemic Covid - 19, the offices were closed and also attendance of the staff was in roaster method. Hence the unit consumed in kWh during the period 2020-21 is less as compared to next FY.

Table 4.5: Electricity from Grid for the Financial year: 2021-2022

Month	P.F.	MDI (kVA)	Unit Consumed(kWh)	Billing period	Net Metering Total Amount i/c applicable taxes etc.
April& May	.96	300	194484	13.04.2021 – 08.06.2021	37,44,000/-
Jun	.96	220	513456	09.06.2021 – 12.07.2021	67,05,610/-
July	.96	2400	472092	13.07.2021 – 12.08.2021	61,94,190/-
Aug	.96	1860	341112	13.08.2021 – 07.09.2021	45,92,250/-
Sept	.96	2040	461793	08.09.2021 – 11.10.2021	61,87,770/-
Oct	.96	1860	201780	12.10.2021 – 09.11.2021	31,59,580/-
Nov	.96	600	142680	10.11.2021 – 06.12.2021	23,84,910/-
Dec	.96	1140	207660	07.12.2021 – 04.01.2022	31,58,840/-
Jan	.96	1440	293880	05.01.2022 – 07.02.2022	42,94,950/-
Feb	.96	1380	146760	08.02.2022 – 11.03.2022	26,09,210/-
Mar	.96	1740	241020	12.03.2022 – 08.04.2022	30,82,890/-
Total			32,16,717		4,61,14,200/-

Source: IGNOU records

Energy Consumption (2021-2022)

Cost Per Unit @ 8.50/-

Electricity Consumption per year- 32,16,717kWh

- Winter Load per year (Oct-Mar) - 12,33,780 kWh
- Summer Load per year (Apr-Sept) - 19,82,937 kWh

Total electricity cost per year- Rs. 4,61,14,200.00/-

Table 4.6: Electricity from Grid for the Financial year: 2022-2023

Month	P.F.	MDI (KVA)	Unit Consumed(kWh)	Billing period	Net Metering Total Amount i/c applicable taxes etc.
Apr	.96	2220	363157	09.04.2022 – 06.05.2022	49,17,160/-
May	.96	2580	609965	07.05.2022 – 13.06.2022	80,15,280/-
Jun	.96	2700	459312	14.06.2022 – 08.07.2022	61,45,170/-

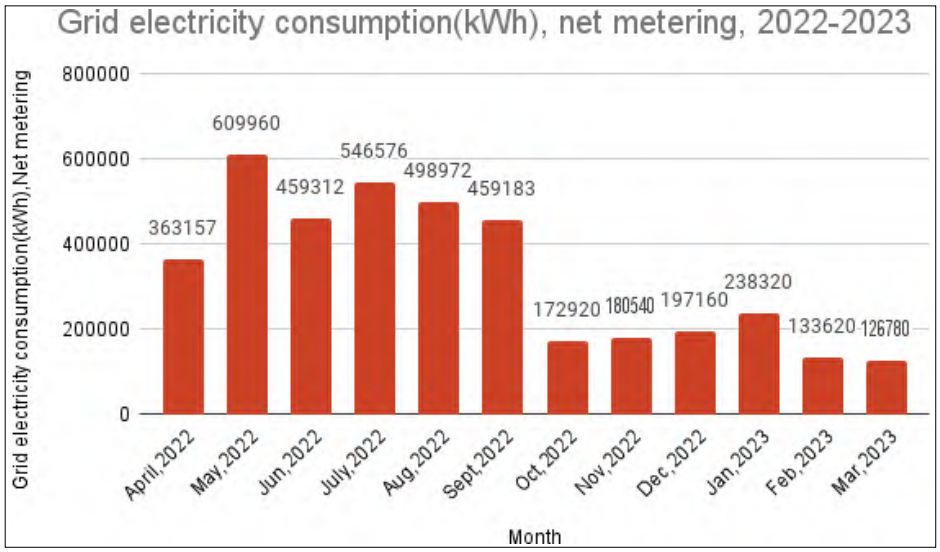
July	.96	2700	546576	09.07.2022 – 10.08.2022	73,89,620/-
Aug	.96	2520	498972	11.08.2022 – 09.09.2022	67,02,550/-
Sept	.96	2580	459183	10.09.2022 – 12.10.2022	63,32,370/-
Oct	.96	1800	172920	13.10.2022 – 09.11.2022	28,25,900/-
Nov	.96	660	180540	10.11.2022 – 13.12.2022	30,95,750/-
Dec	.96	1020	197160	14.12.2022 – 09.01.2023	30,72,860/-
Jan	.96	1320	238320	10.01.2023 – 06.02.2023	36,01,980/-
Feb	.96	1020	133620	07.02.2023 – 09.03.2023	25,08,720/-
Mar	.96	960	126780	10.03.2023 – 07.04.2023	18,79,130/-
Total			39,86,505		5,64,86,490/-

Energy Consumption (2022-2023)

Cost Per Unit @ 8.50/-

- Electricity Consumption per year- 39,86,505 (up-to 07.04.2023)
- Winter Load per year (Oct-Mar) - 10,49,340 kWh (23.9%)
- Summer Load per year (Apr-Sept) - 29,37,165 kWh (76.1%)

Total electricity cost per year-Rs.5,64,86,490.00/-



Electricity From DG Set and Diesel Consumption -From DG sets in ESS-1, 2 & 4

(i) FY-2020-21 = 2554.80 kWh
(ii) FY-2021-22 = 9464.73 kWh

(iii) FY-2022-23 = 6197.13 kWh (upto 17.03.2023)

- From DG sets in ESS- 5 & 10.

(i) FY-2020-21 = 1069.17 kWh

(ii) FY-2021-22 = 4924.35 kWh

(iii) FY-2022-23 = 6681.78 kWh

* The kWh of the DG sets has been calculated & arrived on the basis of their running hours for the period as well as average electrical load of the respective D.G. sets.

Table 4.8: Diesel Consumption in the University

S.No.	2020-21	2021-22	2022-23
1.	1,600 Ltrs.	8,000 Ltrs.	8,200 Ltrs. (upto 17.03.2023)

Diesel Cost per year

The diesel (HSD) is being supplied by CPWD as per requirements; hence, the exact cost of purchase cannot be ascertained. However, for year 2022-23 the approximate cost of purchase would be Rs.7,38,000/- by considering per litre rate @90/- litre.

- DG Sets are mostly used when grid supply fails.
- Proper running hour record & HSD consumed are maintained for a connected load.
- About 8200 Litres of HSD was consumed during whole year. (2022-23)
- Energy meters are not installed on these sets. Current and voltage readings are recorded during running hours. However, logbook for recording operating parameter is maintained.
- DG sets are capable of taking whole electrical load of university.

4.2 Renewable Energy Source -Solar Photovoltaic Power Plant

In recent years, the application of solar energy is consistently increasing as a renewable and green source of energy. It has become the need of the hour due to diminishing availability of fossil

Rooftop Solar Plant at Different Academic Blocks

Block No.-15 Rooftop Solar Plant

fuels and environmental problems.

In line with Government's target of installation 40 GW of Grid connected Solar Rooftop Generation in country by 2022, IGNOU has signed MoU with HFM Solar Power Limited for installation of Grid connected Rooftop Solar Power Plant on its campus. The solar plant has been built in collaboration with MNRE, IPGCL, and EEREM Govt. of NCT Delhi Undertaking.

As per MoU company has commissioned 500 kWp Rooftop Solar Plant on a turnkey basis and it will operate and maintain it for the next 25 years under Renewable Energy Service Company (RESCO) model at zero cost to university. Power generated from plant will be supplied at a cost of Rs 3.13 per unit for a period of 25 years. Apart from saving in Grid tariff, solar plant will also reduce emission from Grid Power and backup diesel generators and will abate around 610 tonnes of CO_2.

For the total installation of 500 KWp, 8 numbers of rooftop solar power plants distributed under 14 nos. inverters have been installed across the university. The details are given below in Table 4.9.

To find out about the energy production of each rooftop solar PV plant, a separate Solar Energy Meter is also installed in each building.

Table 4.9: Details of the Inverters in the University

S.No.	Name of the Building	Inverter No.
1	Block 15	Inverter-1,2 &3
2	EMPC Block	Inverter-4
3	Convention Centre	Inverter-5 &6
4	Academic Block D	Inverter-7
5	Academic Block F	Inverter-8&9
6	Academic Block C	Inverter-10&11
7	Academic Block G	Inverter-12 &13
8	VC Office	Inverter-14

Source: IGNOU records

EMPC Roof Top Solar Plant

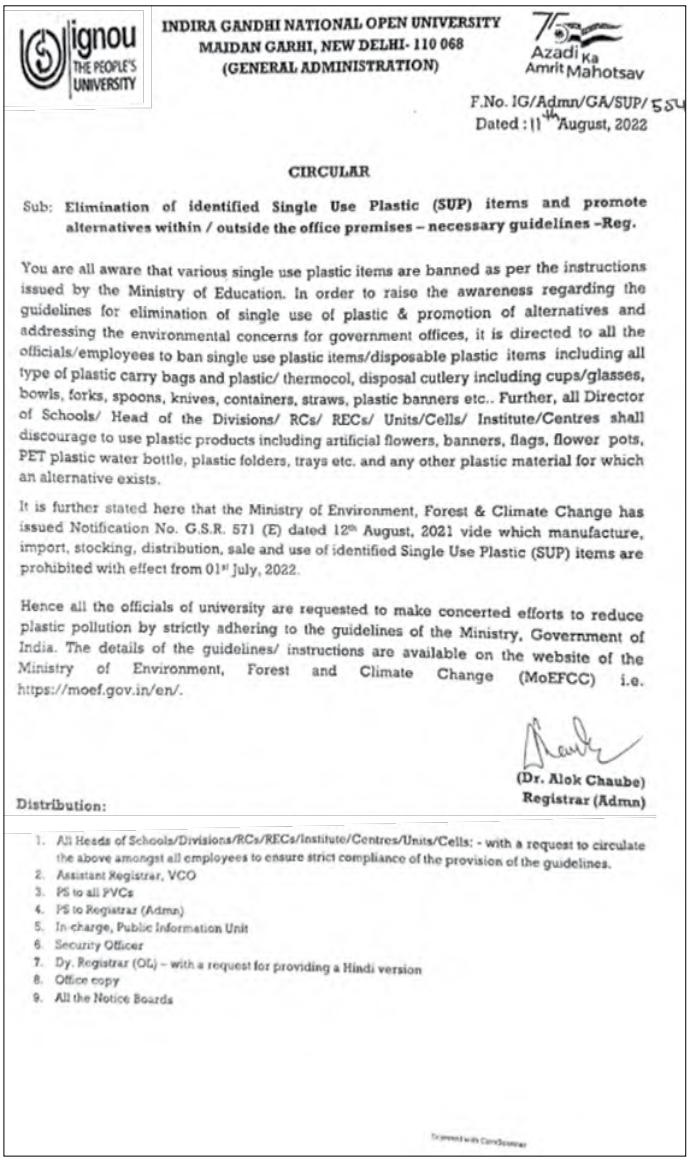
Solar Rooftop System at Academic Block 3

5. Waste Management at IGNOU

5.1 Plastic-free campus

The University discourages the use of single-use plastics, striving to make the campus a plastic-free zone. Awareness campaigns and sustainable alternatives are promoted to minimize plastic consumption. Several circulars and notices have been issued time to time to discourage the use of single use plastics in the campus. In all the official meetings and events of the University, glass bottles are used.

The University regularly organises events and seminars on plastic waste management.



INDIRA GANDHI NATIONAL OPEN UNIVERSITY
MAIDAN GARHI, NEW DELHI- 110 068
(GENERAL ADMINISTRATION)

Azadi Ka Amrit Mahotsav

F.No. IG/Admn/GA/SUP/554
Dated : 11th August, 2022

CIRCULAR

Sub: **Elimination of identified Single Use Plastic (SUP) items and promote alternatives within / outside the office premises – necessary guidelines –Reg.**

You are all aware that various single use plastic items are banned as per the instructions issued by the Ministry of Education. In order to raise the awareness regarding the guidelines for elimination of single use of plastic & promotion of alternatives and addressing the environmental concerns for government offices, it is directed to all the officials/employees to ban single use plastic items/disposable plastic items including all type of plastic carry bags and plastic/ thermocol, disposal cutlery including cups/glasses, bowls, forks, spoons, knives, containers, straws, plastic banners etc.. Further, all Director of Schools/ Head of the Divisions/ RCs/ RECs/ Units/Cells/ Institute/Centres shall discourage to use plastic products including artificial flowers, banners, flags, flower pots, PET plastic water bottle, plastic folders, trays etc. and any other plastic material for which an alternative exists.

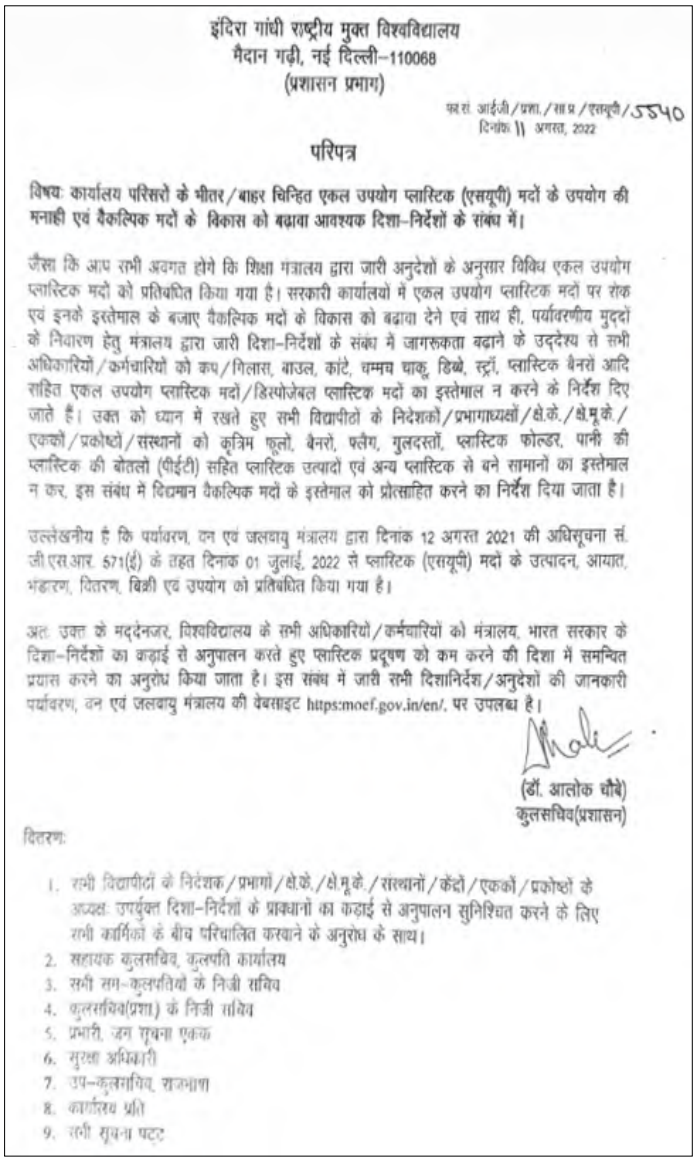
It is further stated here that the Ministry of Environment, Forest & Climate Change has issued Notification No. G.S.R. 571 (E) dated 12th August, 2021 vide which manufacture, import, stocking, distribution, sale and use of identified Single Use Plastic (SUP) items are prohibited with effect from 01st July, 2022.

Hence all the officials of university are requested to make concerted efforts to reduce plastic pollution by strictly adhering to the guidelines of the Ministry, Government of India. The details of the guidelines/ instructions are available on the website of the Ministry of Environment, Forest and Climate Change (MoEFCC) i.e. https://moef.gov.in/en/.

(Dr. Alok Chaube)
Registrar (Admn)

Distribution:

1. All Heads of Schools/Divisions/RCs/RECs/Institute/Centres/Units/Cells: - with a request to circulate the above amongst all employees to ensure strict compliance of the provision of the guidelines.
2. Assistant Registrar, VCO
3. PS to all PVCs
4. PS to Registrar (Admn)
5. In-charge, Public Information Unit
6. Security Officer
7. Dy. Registrar (OL) – with a request for providing a Hindi version
8. Office copy
9. All the Notice Boards



इंदिरा गांधी राष्ट्रीय मुक्त विश्वविद्यालय
मैदान गढ़ी, नई दिल्ली–110068
(प्रशासन प्रभाग)

फा.सं. आईजी/प्रशा./सा.प्र./एसयूपी/5540
दिनांक 11 अगस्त, 2022

परिपत्र

विषय: कार्यालय परिसरों के भीतर/बाहर चिन्हित एकल उपयोग प्लास्टिक (एसयूपी) मदों के उपयोग की मनाही एवं वैकल्पिक मदों के विकास को बढ़ावा आवश्यक दिशा–निर्देशों के संबंध में।

जैसा कि आप सभी अवगत होंगे कि शिक्षा मंत्रालय द्वारा जारी अनुदेशों के अनुसार विविध एकल उपयोग प्लास्टिक मदों को प्रतिबंधित किया गया है। सरकारी कार्यालयों में एकल उपयोग प्लास्टिक मदों पर रोक एवं इनके इस्तेमाल के बजाए वैकल्पिक मदों के विकास को बढ़ावा देने एवं साथ ही, पर्यावरणीय मुद्दों के निवारण हेतु मंत्रालय द्वारा जारी दिशा–निर्देशों के संबंध में जागरूकता बढ़ाने के उद्देश्य से सभी अधिकारियों/कर्मचारियों को कप/गिलास, बाउल, कांटे, चम्मच चाकू, डिब्बे, स्ट्रॉ, प्लास्टिक बैनरों आदि सहित एकल उपयोग प्लास्टिक मदों/डिस्पोजेबल प्लास्टिक मदों का इस्तेमाल न करने के निर्देश दिए जाते हैं। उक्त को ध्यान में रखते हुए सभी विद्यापीठों के निदेशकों/प्रभागाध्यक्षों/क्षे.के./क्षे.मू.के./एककों/प्रकोष्ठों/संस्थानों को कृत्रिम फूलों, बैनरों, पताके, गुलदस्तों, प्लास्टिक फोल्डर, पानी की प्लास्टिक की बोतलों (पीईटी) सहित प्लास्टिक उत्पादों एवं अन्य प्लास्टिक से बने सामानों का इस्तेमाल न कर, इस संबंध में विद्यमान वैकल्पिक मदों के इस्तेमाल को प्रोत्साहित करने का निर्देश दिया जाता है।

उल्लेखनीय है कि पर्यावरण, वन एवं जलवायु मंत्रालय द्वारा दिनांक 12 अगस्त 2021 की अधिसूचना सं. जी.एस.आर. 571(ई) के तहत दिनांक 01 जुलाई, 2022 से प्लास्टिक (एसयूपी) मदों के उत्पादन, आयात, भंडारण, वितरण, बिक्री एवं उपयोग को प्रतिबंधित किया गया है।

अतः उक्त के मद्देनजर, विश्वविद्यालय के सभी अधिकारियों/कर्मचारियों को मंत्रालय, भारत सरकार के दिशा–निर्देशों का कड़ाई से अनुपालन करते हुए प्लास्टिक प्रदूषण को कम करने की दिशा में समन्वित प्रयास करने का अनुरोध किया जाता है। इस संबंध में जारी सभी दिशानिर्देश/अनुदेशों की जानकारी पर्यावरण, वन एवं जलवायु मंत्रालय की वेबसाइट https:moef.gov.in/en/, पर उपलब्ध है।

(डॉ. आलोक चौबे)
कुलसचिव(प्रशासन)

वितरण:

1. सभी विद्यापीठों के निदेशक/प्रभागों/क्षे.के./क्षे.मू.के./संस्थानों/केंद्रों/एककों/प्रकोष्ठों के अध्यक्ष: उपर्युक्त दिशा–निर्देशों के प्रावधानों का कड़ाई से अनुपालन सुनिश्चित करने के लिए सभी कार्मिकों के बीच परिचालित करवाने के अनुरोध के साथ।
2. सहायक कुलसचिव, कुलपति कार्यालय
3. सभी सम–कुलपतियों के निजी सचिव
4. कुलसचिव(प्रशा.) के निजी सचिव
5. प्रभारी, जन सूचना एकक
6. सुरक्षा अधिकारी
7. उप–कुलसचिव, राजभाषा
8. कार्यालय प्रति
9. सभी सूचना पट्ट

5.2 Solid Waste Management

IGNOU has established a comprehensive waste management system, including waste segregation, composting, and recycling initiatives, to ensure eco-friendly waste disposal practices. The University handles waste management systematically, categorizing waste into two primary types: organic and dry waste. Organic waste, including cooked and uncooked food, fruits, and flowers, decomposes quickly and is separated from dry waste such as plastic, rubber, metal, glass, cloth, paper, and packaging materials. The South Delhi Municipal Corporation (SDMC) supports IGNOU by collecting waste daily from the Maidan Garhi Residential Campus (MGRC), ensuring efficient disposal through recycling processes. The residents actively contribute by segregating wet and dry waste. IGNOU has implemented specific waste management protocols for unique waste types.

The Schools of Studies organize various events and programmes to create awareness regarding effective solid waste management.

INDIRA GANDHI NATIONAL OPEN UNIVERSITY
MAIDAN GARHI, NEW DELHI – 110068
ADMINISTRATION DIVISION
(Housekeeping Section)

F. No.: IG/Admn/GA/SBA/2022/ 5812
Dated: 29th September, 2022

CIRCULAR

Subject:-Management and Separation of Domestic Garbage (Wet & Dry) by the resident of MGRC- reg.

You are all aware that there are two main kinds of waste being discarded on daily basis and it is our duty to protect our environment by eco-friendly waste management by separating organic waste from cooked and uncooked food, fruit and flowers are natural products which decompose quickly called **"Wet Waste"**, and other manmade or manufactured products which are discarded called **"Dry Waste"** e.g. plastic, rubber, metal, glass, cloth, paper, packaging etc.

An indicative list of wet waste, dry waste and recycle waste is given at Annexure-I for reference.

A team of SDMC (South Delhi Municipal Corporation) officials, along with SDMC Mini Van are coming daily for collection/picking of the wastage/garbage inside MGRC, IGNOU.

Hence, all the residents of MGRC are requested to cooperate and give their contribution in the cleanliness of the IGNOU Campus by separating domestic wet and dry waste handing over them to the garbage collectors.

(Dr. S.P. Rout)
Dy. Registrar (GA)

Copy to:

1. All Directors of Schools/Divisions/Units/Cells – With a request to circulate among the staff of MGRC.
2. AR to VCO - for kind information
3. PS to PVCs - for kind information
4. PS to Registrar (Admn.)
5. Security Office
6. Office copy file.
7. Notice Board

5.3 e-Waste Collection and Management

The Computer Division and Health Centre systematically manage e-waste with notifications issued regularly by the Administration Division for effective disposal. The University has started the practice the Collection of E waste from the offices and residential areas. e-waste collection boxes meant for the collection of discarded electronic waste material such as chargers, batteries, damaged mobile phone parts, ink bottles, ink cartridge, pet bottles etc. have been stationed at the following locations of the Campus:

- Reception Hall, Vivekananda Bhawan, Block No. 15
- Main Corridor, General Administration, Block No. 3.
- Library Building

The University encourages the employees, staff and students to deposit the old discarded electronic items in these boxes.

E-waste collection Box at Swami Vivekanand Bhawan

5.4 Innovative Use of Waste-Upcycling

The University encourages the innovative use of the scrap and discarded materials. In this endeavour, several decoratives show pieces have been made. An old vintage car is painted and displayed at the prime location of the University. Likewise, old metal parts have been used to create artistic displays.

5.5 Disposal of Waste Paper

The Student Evaluation Division utilizes a heavy-duty paper shredder to dispose of old and redundant materials securely.

5.6 Agro-waste Management

The Horticulture Cell collects and recycles the agro-waste of the campus and transports it to the re-cycling NADEP unit for developing vermicompost.


GPS Map Camera
New Delhi, Delhi, India
K-112/1, Block K, Neb Valley, Malviya Nagar, New Delhi, Delhi 110068, India
Lat 28.499292°
Long 77.202252°
26/09/24 10:13 AM GMT +05:30
Google


GPS Map Camera
New Delhi, Delhi, India
K-106/2, Block K, Neb Valley, Chhatarpur, New Delhi, Delhi 110068, India
Lat 28.499612°
Long 77.202218°
26/09/24 10:22 AM GMT +05:30
Google

6. Sustainability Initiatives at IGNOU HQs

6.1 Green Energy Practices

The University has adopted green energy practices by harnessing solar energy through photovoltaic cells; wheeling to the Grid through bidirectional meter; installing LED bulbs for street lighting of the entire campus including the residential campus. Sensor glass door also has been installed for sensor-based energy conservation.

In line with Government's target of installation 40 GW of Grid connected Solar Rooftop Generation in country by 2022, IGNOU has signed MoU with HFM solar power limited for installation of Grid connected Rooftop Solar Power Plant on its campus. Solar plant has been built in collaboration with MNRE, IPGCL, and EEREM Govt. of NCT Delhi Undertaking.

Solar Water Pump Installation

Solar powered pumping systems are affordable alternative to replace conventional diesel or electric pump sets. The solar water pump is reliable and environmentally sustainable. It is pollution-free and requires little maintenance as compared to the diesel operated or electricity (AC) operated water pump sets.

In academic collaboration with International Solar Alliance, IGNOU initiated programmes on

Solar Water Pumping System at IGNOU

Solar Water Pumping and Solar Water Pumping system of 7.5HP have been installed in Horticulture cell for irrigation applications and demonstration to learners.

This Solar water pump is being utilized for the operating of Nursery bore well.

6.2 Weather Forecasting Station

IGNOU and IMD signed a Memorandum of Understanding (MoU) to install the AWS at IGNOU Maidan Garhi Campus, New Delhi. The Automated Weather Station was inaugurated by Prof. Uma Kanjilal (VC, IGNOU) and Dr. Mrutyunjay Mohapatra (Director General, IMD) on 5th Dec 2024

to provide real-time weather data, enabling more accurate forecasting and monitoring of weather patterns.. The AWS will be useful for project work, research, and awareness purposes, particularly for students and researchers in fields like geology, geoinformatics, geography, environmental sciences, and agriculture.

6.3 Paperless Office

IGNOU is progressively adopting paperless practices through digital solutions such as ODLSoft and SAMARTH, facilitating efficient administrative processes. The University's eGyanKosh and IGNOU e-content App ensure digital access to educational resources, reducing paper consumption. Fee waivers and the decision to discontinue the printing of programme guides and prospectuses further reinforce IGNOU's commitment to environmental sustainability.

6.4 Academic Programmes Promoting Sustainability

Recognizing the importance of environmental sustainability, IGNOU offers specialized academic programmes to build capacity in Environmental Science, Environmental Studies, Sustainability, Environment Management, Climate Change, Waste management, etc. These programmes are of Appreciation, Certificate, PG Diploma, Masters and Ph.D. Level. These are:

- Ph.D. (Environmental Science)
- M.Sc. (Environmental Science)
- M.Sc. (Renewable Energy and Environment)
- M.A. (Environmental and Occupational Health)
- M.A.(Sustainability Science)
- M.A. (Environmental Studies)
- P.G. Diploma in Environmental Studies
- P.G. Diploma in Environmental and Occupational Health
- P.G. Diploma in Environment and Sustainable Development

- Post Graduate Diploma in Waste Management
- P.G. Diploma in Environmental Management & Law
- P.G. Diploma in Sustainability Science
- P.G. Certificate in Climate Change
- Diploma Programme in Watershed Management
- Certificate in Solid Waste Management
- Certificate in Water Harvesting and Management
- Certificate in Environmental Studies
- Certificate in Solid Waste Management Technologies
- Appreciation Course on Environment

These programmes provide learners with the necessary skills and knowledge to address waste management challenges effectively, promoting eco-friendly practices and sustainable development.

IGNOU's initiatives emphasize sustainable practices and community participation, reinforcing its dedication to environmental responsibility. Through strategic initiatives, IGNOU continues to uphold its commitment to sustainability, setting an example for educational institutions in India and beyond.

6.5 Honouring Guests with Saplings

In all the important occasions and celebrations of the University including the IGNOU Special Days like Convocation, Prof. G. Ram Reddy Memorial Lectures, Foundation Day, the guests are given plant sapling as a token of gratitude. These saplings are provided by the Horticulture Cell of the University. There is no plastic packaging or bouquets presented to guests and external experts.

6.6 Eco-friendly Transportation

The University provides free shuttle bus service which runs on eco-friendly fuel, and operates within the campus during office hours at regular intervals.

6.7 e-Vehicles Charging Points

We know that rapid shift to Electric Vehicles (EV's) will play very important role in reducing pollution in the national capital. The Delhi electric vehicle policy, 2020 aims to establish Delhi as the EV capital of India with 25% EV penetration by 2024.

IGNOU has also become a part of this green drive to curb Delhi's pollution in 2023, IGNOU has provided space near PNB, IGNOU parking for setting up the EV charging facilities to Charge point operator (CPO) with the help of BSES. For charging 4-Wheeler, 3-Wheeler, 2-Wheeler, a Single phase, LEV AC charge points of rating 3.3 kW, 240 V, 16 A (Slow/Moderate).

6.8 Feedback Tool on Mission LiFE

The Centre for Internal Quality Assurance (CIQA) and NEP Cell of IGNOU developed feedback tools for data collection for the academic year 2022-2023 from its stakeholders, namely: (1) Teachers; (2) Subject Experts; (3) Academic Counsellors; and (4) Learners on "Mision LiFE: One Earth, One Family, One Future". One of the major objectives of obtaining feedback from stakeholders was to identify gaps and initiate the steps to be taken by the University for the attainment of SDGs by adopting eco-friendly practices through LiFE and replace the prevalent 'use and-dispose' economy with a circular economy, characterized by responsible consumption, under the motto: "One Earth, One Family, One Future". The CIQA & NEP Cell administered the survey tools through Google form and the stakeholders were requested to respond to the survey online within a stipulated time frame. The data collected was analysed and Reports were prepared.

7. Sustainability Initiatives at IGNOU Regional Centres

The Pledge for the Lifestyle for the Environment (https://unnatbharatabhiyan.gov.in/life) movement announced by NITI Aayog and MyGov was circulated among the Regional Centres and LSC staff and encouraged to take e-pledge. The NITI Aayog appreciated and issued Certificate of Commitment for contribution towards practicing and creating awareness of an environment-friendly lifestyle to become a Pro Planet People. Few of Certificates are attached herewith.

The IGNOU RC Bangalore had organized various activities under the theme 'Lifestyle for Environment' as part of celebration of World Environment Day 2023 at Regional Centre and Learner Support Centres. The learners also conducted other activities during the Life Style for Environment Exhibition. Some of these activities are:

- Preparation of biodegradable badges with eucalyptus dry leaves with the Government logo
- Preparation of Paper Crowns
- Preparation of Bio-enzyme (organic hand wash)
- Presentation on uses of medicated plants
- Presented a Puppet Show on " Lifestyle for Environment'
- Recover Presentation (R-R-R-R-R)- How to recover the environment and ecosystem
- Presentation on Healthy things & explanation
- Role Plays and Songs etc.

Regional Centre, Bangalore also organized a webinar on 'Global Warming and Ozone layer Depletion' through virtual mode, to sensitize the audience about the impact of behavioural change on the environment.

Regional Centre, Bhagalpur organized Shramdaan at Ravindra Bhawan, Bhagalpur with staff of IGNOU RC Bhagalpur & LSC 0505, Marwari College, Bhagalpur, IGNOU learners, NSS & NCC students of Marwari College, Bhagalpur RC-Bhagalpur staff. 80 persons were present for the event. On the occasion, Swachhata Pledge was taken by the staff and cleanliness Drive at RC office was organized.

Regional Centre, Bhopal organised International Webinar on the theme, 'Imbibing Mission LiFE in Higher Education Special Campaign 3.0' on 20th October 2023. The themes of the webinar were Clean workplace and an efficient country, Traditional and age-old practices for a sustainable lifestyle, RRR (Reduce, Reuse Recycle) and sustainable development, management of 'waste for the best', zero waste event, etc. The Webinar was very useful and interactive

Regional Centre, Chennai organized Webinar on Sustainable Development on 12th October, 2023 covering the aspects of importance of Soil, Air, Water, difficulties with Pollution, Plastic usage, Deteriorating soil health.

Regional Centre, Deoghar organized a webinar on 'Hazardous effects of Plastics and its Alternatives', on 28th October, 2023. In this webinar students and functionaries of the LSCs under RC Deoghar participated.

RC, Guwahati organized special lecture on 3R for Waste Management: Reuse, Reduce & Recycle. As part of Mera Mati Mera Desh campaign of Swacchta Pakhwada- Mission Life, IGNOU Regional Centre Guwahati organized, Tree plantation Programme in Collaboration with Regional College of Nursing and IGNOU Regional Centre Guwahati.

Regional Centre, Jaipur organized One Day Webinar on "Solid Waste Management" under special campaign 3.0 Swachhata Pakhwada Mission Life on 06th October, 2023.

Regional Centre, Jorhat has undertaken activities for reducing waste and plastic at the surrounding of the office. All the officials and staff members joined the cleanliness drive at the campus for reducing garbage and plastics. During the cleanliness drive the surroundings of the office, entrance area, parking area, wall, ceilings, floor, etc were cleaned by the staff members making it a plastic and garbage free area.

Regional Centre, Khanna is committed to keep the environment in and around the campus as clean and green as possible. In view of the efforts made under Mission LiFE, the RC office organizes plantation drives from time to time. 'Single Use Plastic' items are not at all uses at the Regional Centre. Special care is taken by the staff to save water/electricity as and when possible.

Retrofitting the Iron Steel self for storing study materials: Numerous steel racks have been fully restored and are being utilized to store study materials.

Study materials were arranged in the refurbished recks.

Regional Centre, Mumbai organized a plantation Drive at Regional Centre premises on 28th September 2023 with all Regional Centre staff and planted more than 7 plants towards making the premises Green. The Regional Centre, Mumbai declared the premises Single Use Plastic free and posters in this regard have also been placed in the premises. The Regional Centre also organized a Webinar on "Sustainable Lifestyle" on 12th October 2023. Various competitions for encouraging the LiFE movement were also organized like Elocution Competition, Painting Competition and Slogan Competition

The Regional Centre, Raipur organized a webinar on preservation of Environment on 17th February 2024 the learners the importance of the environment and it's safety. Under these missions, RC undertook the following initiatives:

Restoration of old Chairs: The old, unused and discarded chairs were repaired since their bases were still in good condition.

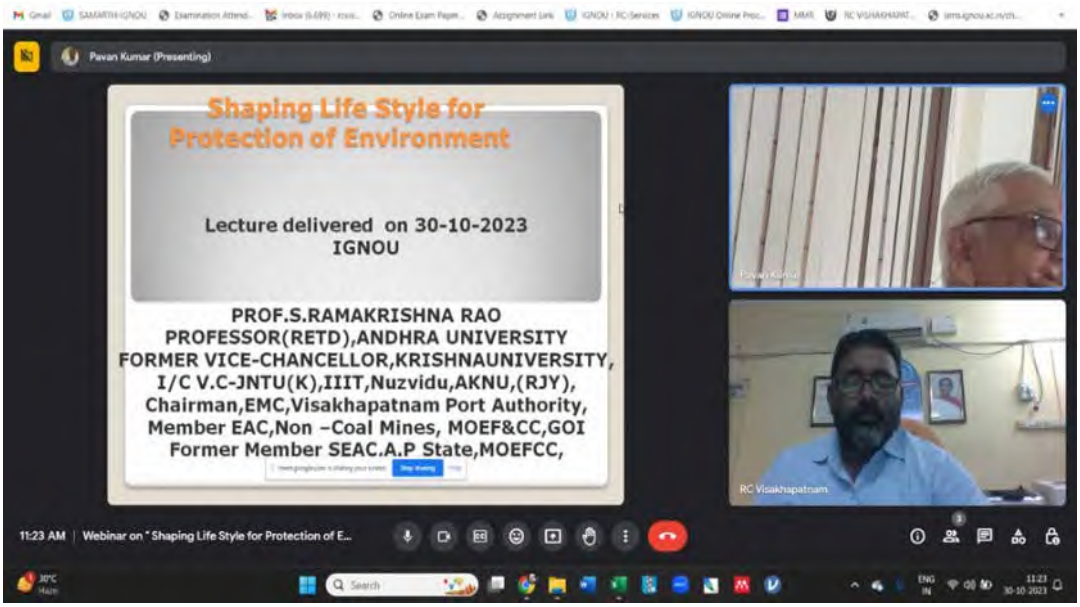
Refurbishing of old Computers (desktop and laptop): Several computers which were not operating efficiently due to outdated hardware, causing staff members to experience slowdowns and other problems with software compatibility etc.

Regional Centre, Shillong organised Webinar on "Adopting Sustainability as a Way of Life" on 17th October 2023. Regional Centre, Srinagar organized various activities under the mission LiFE. An offline event was also organized in the RC with the learners of IGNOU to appraise them about the activities to be conducted under mission LiFE.

Regional Centre, Varanasi organized a programme under Special Campaign 3.0 for Mission LiFE (Lifestyle for Environment) and "Swachhata hi Seva" on 08th October 2023. Different events and co-curricular activities such as debate, poster making and slogan writing competitions were organized for IGNOU learners

IGNOU RC, Vijayawada held a brainstorming session on 11th October 2023 on energy saving practices. The RC Staff at home/work place to share their energy saving measures.

Regional Centre, Visakhapatnam organized a Webinar on "Shaping Life Style for protection of Environment" on 30th October 2023.



8. Implementation of Government Schemes and Programmes

8.1 Swachhata Pakhwada Celebration

In alignment with the Government of India's Swachh Bharat Mission, Indira Gandhi National Open University (IGNOU) has actively participated in various Swachhata initiatives, including Swachhata Pakhwada 2.0, 3.0, and Special Campaign 4.0. These campaigns aim to promote cleanliness, reduce pendency, and institutionalize sustainable practices across government institutions.

Swachhata Pakhwada 2.0 was observed from 16th September to 30th September 2022, with activities focusing on cleanliness and environmental sustainability. IGNOU participated by organizing cleanliness drives, webinars, and competitions at its Regional Centres, engaging learners and stakeholders in promoting hygiene and sustainability. Employees at both Headquarters and Regional Centres took the Swachhata Pledge, reaffirming their commitment to maintaining cleanliness in their surroundings.

Swachhata Pakhwada 3.0 was celebrated from 15th September to 30th September 2023, with a preparatory phase from 15th September to 30th September 2023 and an implementation phase from 2nd October to 31st October 2023. IGNOU actively participated by organizing cleanliness drives, webinars, and competitions at its Regional Centres, engaging learners and stakeholders in promoting cleanliness and sustainability. Employees at both Headquarters and Regional Centres took the Swachhata Pledge, reaffirming their commitment to maintaining cleanliness in their surroundings.

Special Campaign 4.0 was implemented in two phases: a preparatory phase from 16th September to 30th September 2024 and an implementation phase from 2nd October to 31st October 2024. The campaign focused on institutionalizing cleanliness and reducing pendency in government operations. IGNOU participated by organizing cleanliness drives, webinars, and competitions at its Regional Centres, engaging learners and stakeholders in promoting cleanliness and sustainability. Employees at both Headquarters and Regional Centres took the Swachhata Pledge, reaffirming their commitment to maintaining cleanliness in their surroundings.

Through active participation in Swachhata Pakhwada 2.0, 3.0, and Special Campaign 4.0, IGNOU has demonstrated its commitment to the Swachh Bharat Mission's objectives. By organizing cleanliness drives, webinars, and competitions, and encouraging employees and stakeholders to take the Swachhata Pledge, the university has fostered a culture of cleanliness and environmental responsibility among its community.

8.2 Celebration of National Festivals

Harela Festival Celebrations at IGNOU

Harela, a festival rooted in the Kumaon region of Uttarakhand, marks the onset of the planting season and is symbolically linked to the divine union of Lord Shiva and Goddess Parvati. In line with the festival's emphasis on nature and renewal, IGNOU has joined hands with the Harela

Foundation, an organization dedicated to environmental awareness and conservation to host tree plantation drives and related activities. Notably, in July 2023, a collaborative tree planting ceremony was held at the IGNOU campus in Delhi, reflecting the University's commitment to environmental sustainability.

9. Awards and Accolades

IGNOU's Achievement in the Swachh Campus Rankings 2019

In 2019, the Indira Gandhi National Open University (IGNOU) was recognized as the second cleanest higher educational institution in India within the Non-Residential Universities category, as per the Swachh Campus Rankings conducted by the erstwhile Ministry of Human Resource Development (MHRD), Government of India.

The Swachh Campus Rankings were initiated by the MHRD to promote hygiene and cleanliness in higher education institutions across the country. These rankings assess institutions based on various parameters, including campus cleanliness, waste management practices, water conservation efforts, and the promotion of hygiene among students and staff. The objective is to encourage institutions to adopt sustainable and eco-friendly practices, aligning with the broader goals of the Swachh Bharat Abhiyan.

In the 2019 rankings, a total of 6,900 institutions participated, with 48 universities and institutions recommended for awards across various categories. IGNOU's recognition reflects its commitment to maintaining a clean and sustainable campus environment. The university has implemented several initiatives aimed at enhancing environmental consciousness and promoting sustainable practices among its community.

These initiatives include systematic waste segregation and disposal mechanisms, adoption of water-saving techniques, regular tree plantation drives, and organizing workshops to educate students and staff about the importance of cleanliness and environmental sustainability.

IGNOU's achievement in the Swachh Campus Rankings 2019 underscores its dedication to fostering a clean and sustainable educational environment. This recognition serves as a testament to the university's proactive measures in promoting environmental stewardship and its role as a model institution in implementing the objectives of the Swachh Bharat Abhiyan.

10. The Way Forward

Suggestions of the Stakeholders for Making the IGNOU Campus Clean & Green

Administrative Division:

- Conduct sensitization programmes to reduce the culture of 'use and dispose'.
- Use reusable bags, bottles, and containers, and avoid disposable items whenever possible.
- Reduce plastic usage in the campus and ban use of single plastics completely.
- Organize health awareness talks.
- Observe clean days and schedule cleanliness drives by involving all employees for at least one day in a month for campus clean and green activity.
- Increase awareness and cooperation of employees for maintaining clean washrooms.
- Blue and Green Garbage bins to be provided at designated places on the campus for disposal of dry and wet waste (recyclable and non-recyclable waste).
- Encourage sustainable transportation in the campus by introducing e-rickshaw and cycles for internal mobility.
- Collaborate with NGOs to recycle paper, plastic, and e-waste materials of the University.
- Encourage paperless transactions in the office by focusing on the e-filing system.
- Issuance of circulars/notices/ handouts via emails and hosted on the website only.
- More number of electronic vehicles (EV) charging stations for use of EV car or auto in the campus.

Construction and Maintenance Division:

- The use of green energy should be encouraged. The entire IGNOU campus can be powered by solar panels in both its offices and its residential complex.
- Extra electricity generated should be sold to the government and revenue should be generated.
- IGNOU should create awareness and run projects on clean and green energy for surrounding areas as part of its extension activity.
- Once successful, the same efforts should be replicated by all Regional Centres for a more significant impact.
- Ways should be found out to make the old structures more eco-friendly, like using sustainable materials for interiors etc.
- The new structures should be constructed in a strictly eco-friendly manner.
- The material should be such that it keeps the building less heated in the summer and warm in the winter.
- Replacing of all taps and flush systems in the toilets with sensor taps and auto flush systems for all restrooms and pantries should be initiated to replace the old rusted leaking sanitary fittings.
- Using LED bulbs is not the only option; sensors should also be used on all campus lighting.
- Preference should be given to build multi-storey buildings in place of single/double-storey buildings, in order to make more space for plantation.
- Issue advisories on Energy conservation to the employees of the University.

Campus Horticulture Cell:

- Plant more and more trees which will help in controlling climate change.
- Drip-irrigation should be used in watering the campus plants/trees and more trees should be planted, which are less water-intensive but are of high economic value.
- Excess water flow from all the ROs can be drained into reuse of the water in cleaning and watering the trees.
- Wet waste can be collected from the residential complex and used for the production of manure for the various gardens of the University.
- Every School can adopt a garden as a rose garden, herb garden etc. and maintain it as environmental activity.
- The best-maintained garden by School may be given an award or appreciation certificate on the foundation day of the University.
- All the employees should own at least one plant from the existing plants and take care of them.
- Plantation in the name of visiting guests.
- Develop available spaces to grow medicinal herbs and oriental plants and generate income through sale of these and encourage their usage by the employees.

Energy Conservation Measures

- IGNOU may plan for setting up one more EV charging facilities (fast) with the help of BSES for fast charging of 4- Wheeler/2- Wheelers.
- University may also explore the possibility for the effective use of biomass at the Campus,
- Solar water heaters at guest house and residential quarters may also be installed.
- Ensure use of energy efficient luminaries such as LED fittings, motion sensors, Star rated energy efficient ceiling fans for any new/ replacement related work. Daily supervision to check and switch of the lights in open corridors during day time.
- Renewable energy system such as solar street lights, solar light blinkers at road may be installed at various places of University.
- Utilization of battery-operated vehicle should be explored.
- For energy efficient solar plant removal of dust accumulation from the solar photovoltaic panel is required at regular interval.
- Replacement of existing reciprocating or centrifugal or semi-shield type AC Chillers with energy efficient VRV/VRF type AC Chillers in a phased manner.

Appendix -1

CENTRE FOR INTERNAL QUALITY ASSURANCE (CIQA)
INDIRA GANDHI NATIONAL OPEN UNIVERSITY
MAIDAN GARHI, NEW DELHI-110068

F. NO. CIQA/2/NAAC Act. Committ./2025/479
Date: 20th March 2025

NOTIFICATION No. 1

With the approval of the competent authority, a committee has been constituted to assist the Centre for Internal Quality Assurance (CIQA) in documenting IGNOU's best practices related to NAAC activities on **"Energy, Environment, and Green Campus".** This will ensure smooth coordination and timely completion of tasks for the **2nd cycle of NAAC accreditation** and the **NIRF 2026 ranking** of the University.

The committee comprises the following members:

1.	Prof. Shachi Shah, Director, COE	-	Chairperson
2.	Prof. Vijayakumar P., Director, CIQA	-	Member
3.	Prof. Rakhi Sharma, SOET	-	Member
4.	Dr. Deeksha Dave, Associate Professor, SOITS	-	Member
5.	Prof. Manjulika Srivastava, OSD, CIQA	-	Member
6.	Dr. Shekhar Suman, AD, CIQA	-	Member
7.	Dr. Navita Abrol, DD, CIQA	-	Convener

The task needs to be completed on or before 31st May 2025.

This notification is issued with the approval of the Hon'ble Vice-Chancellor.

(Prof. Vijayakumar P.)
Director, CIQA

Appendix- 2

Under OU Category

INDIRA GANDHI NATIONAL OPEN UNIVERSITY
CENTRE FOR INTERNAL QUALITY ASSURANCE (CIQA)
MAIDAN GARHI, NEW DELHI-110 068

MINUTES OF THE 1st MEETING OF THE COMMITTEE ON "ENERGY, ENVIRONMENT, AND GREEN CAMPUS" ON 8TH APRIL 2025 AT 1:00 PM IN THE CONFERENCE ROOM, CIQA, IGNOU, MAIDAN GARHI, NEW DELHI-110 068.

Following attended the meeting on 8th April 2025:

Prof. Vijayakumar P., Member	Director, CIQA
Prof. Rakhi Sharma, Member	Professor, SOET
Dr. Deeksha Dave, Member	Associate Professor, SOITS
Prof. Manjulika Srivastava, Member	OSD, CIQA
Dr. Shekhar Suman, Member	AD, CIQA
Dr. Navita Abrol, DD, CIQA	Member & Convener

Prof. Shachi Shah, Chairperson and Director COE was unable to attend the meeting because of a last-minute appointment.

Proceedings of the Meeting

Dr. Navita Abrol, Deputy Director, CIQA and Convener of the Committee, welcomed all the esteemed members to the first meeting of the Committee on "Energy, Environment, and Green Campus" She emphasized that the purpose of this committee is to holistically document the IGNOU's efforts towards the Energy efficient, Sustainable Environment, and Green Campus during the last five years. She requested Director CIQA, Prof. Vijayakumar P to elaborate the purpose of the meeting to the members. He briefed the committee about the purpose and expected outcomes. He explained that the Committee would be responsible for compiling a comprehensive and evidence-based document showcasing IGNOU's efforts towards the Energy efficient, Sustainable Environment, and Green Campus during the last five years.

Tentative Structure and Allocation of Sections

After detailed deliberations the following structure was decided and responsibilities for drafting specific sections were allocated.

Structure

1. The IGNOU Campus: A Transformation from Barren Land to Biodiverse Haven
2. Floral and Faunal Biodiversity of the University
3. Water Resources at IGNOU
4. Energy Resources at IGNOU
5. Waste Management at IGNOU
6. Sustainability Initiatives at IGNOU HQs
7. Sustainability Initiatives at IGNOU Regional Centres
8. Implementation of Government Schemes and Programmes
9. Awards and Accolades
10. The Way Forward

Timeline and Next Steps

It was decided that the first complete draft of the document is expected to be finalized by the First week of May 2025. CIQA will coordinate follow-ups and provide support in standardizing formatting and structure.

The meeting concluded with a formal vote of thanks proposed by the Convener.

Prof Shachi Shah
Chairperson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