



# ZIAUDDIN UNIVERSITY



**SIR DR. ZIAUDDIN AHMED**

**THE VERSATILE EDUCATIONIST**

**Sustainability Report 2021**

## INTRODUCTION

- Ziauddin University is a HEC recognized degree awarding institution which was founded in the memory of Sir Dr. Ziauddin Ahmad.
  - A renowned academician, philosopher, mathematician, and political figure.
  - His vision was to spread quality education.
- Ziauddin University is providing and promoting the advancement of knowledge through excellence in teaching, learning, research, and public service.
- Ziauddin University represents its firm commitment to become a Sustainable & Internationally acclaimed educational entity, hence its Quality Enhancement Cell does its utmost to work on all essential criteria to represent the University in Greenmetric Ranking.

# Ziauddin University Striving Efforts for Sustainability

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To be recognized as the icon of the innovative, leading-edge educational institute that endeavors to International sustainability efforts for the Environment, Economy, and Equity.



# Ziauddin University as Sustainable University

## Sustainable University in a Changing World: Lessons, Challenges and Opportunities

- It contributes to academic discourses on sustainability in education and the greening of campus.
- It promotes university-led social change regarding sustainability goals and as a tool for self-assessment on-campus sustainability for higher education institutions (HEIs) around the globe.

# Ziauddin University as Sustainable University

## Sustainable University in a Changing World: Lessons, Challenges and Opportunities

- It will be evident to inform governments, international and local environmental agencies, and the society about sustainability.
- It is based on the concept of Environment, Economy & Impartiality to achieve development goals.
- It is devised to help the university for internalization, recognition benefit, and to address global challenges.

# Benefits of Sustainability

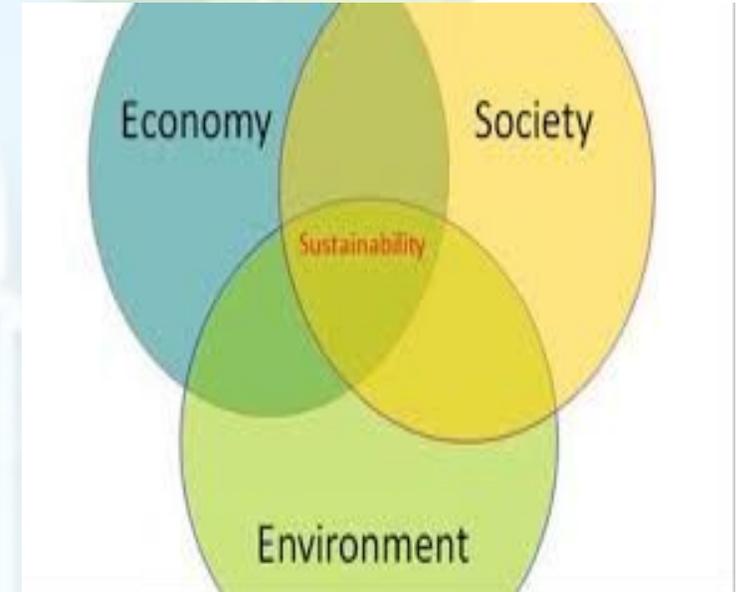
- Internationalization and Recognition
- Increased Awareness of Sustainability Issues
- Social Change and Action
- Networking
- Environment Friendly

**Save Earth Save Life**



# Domains & Green Metric International Ranking Criteria

- Setting & Infrastructure of University Campus
- Energy & Climate Change
- Waste Management
- Water Management
- Transportation Management
- Education & Research



Sustainability, by definition, is at the intersection of economic, social and environment interests

# 1. Infrastructure & Settings

- Ziauddin University is a specialized higher education institution and has 4 multi-regional sites in Karachi and 1 campus in Sukkur. The campus setting of Ziauddin University is urban.



# 1. Infrastructure & Settings

- Infrastructure of Ziauddin University is designed in a sustainable way. Campuses are constructed in eco and environment friendly manner such as open court, ventilation system that helps usage of daylight the most or efficient use of natural resources.
- Campuses are build purposely pedestrian friendly to reduce carbon emission and prevent pollution.

Sustainable infrastructure of Ziauddin University supports day to day functions and assist to integrate the natural environment.

# ZIAUDDIN UNIVERSITY



# 1. Infrastructure & Settings

- Total Campus Area of Ziauddin University is 345668.49 square metre.
- The ratio of open space area to total area  $> 92.32\%$ .
- The total area on campus covered with forest vegetation is 190133.15 that is  $> 35\%$



# 1. Infrastructure & Settings

- The total area covered with planted vegetation is 40274.3 that is around 11.65%
- The total area on campus for water absorption besides forest & planted vegetation is 12273.74 that is around 3.55%.



# 1. Infrastructure & Settings

- Total Population of Ziauddin University is more than 5000 including employees and Students. while estimated total population in the campus during Covid-19 was around 3000. Hence, total open space divide by total campus population is  $> 70 \text{ m}^2 / \text{person}$ .
- As infrastructure is central to sustainable development therefore, to meet the requirement of sustainable equipment and system the average percentage of University's budget for sustainability effort is 28.23 %.

# 1. Infrastructure & Settings

- Ziauddin Group established tertiary care hospitals such as Dr. Ziauddin Hospital North Nazimabad, Dr. Ziauddin Hospital Clifton and Dr. Ziauddin Hospital KDLB. In addition, Dr. Ziauddin Hospital Sukkur is in process.
- Health & Infrastructure facilities of Ziauddin University are available to all their academic and non-academic staff and their dependents with full coverage of IPD, OPD, Maternity, accidental and emergency care.
- To meet the population essential service needs Ziauddin University provides the facilities of wheelchair ramps, Elevators, washrooms for disable or special need persons. while Girls common room, day care and maternity care facilities are available for female students and employees.



Facilities for disable and special need persons and day care at Ziauddin University.

## 1. Infrastructure & Settings

- Ziauddin University is vigilant to provide security and Safety to its students and employees and has efficient and rapid security system in case of any danger and calamity.



# 1. Infrastructure & Settings

- To conserve water and to maintain green environment Ziauddin University has taken following Steps:
  - To protect baby plants from excess heat, cold and maintain temperature greenhouse effect is created.
  - Ponds are the source to conserve water and can capture most of the rainfall. Therefore, in perspective of sustainability and conserve water construction of fish pond is in process.







# Dr. Aijaz Fatima Library



## 2. Energy & Climate Change

The energy management system operated at Ziauddin University is in accordance with the climate remodeling concept.

- The renewable energy resource for cost-effective energy production & utilization operating at Ziauddin University is Solar Energy with Smart Space utilization.
- As a responsible education institute, Ziauddin University also concentrates on the state of the facilities for students by using energy-efficient appliances & equipment at the campus.

## 2. Energy & Climate Change

- Energy efficient appliance usage is >75% at Ziauddin university.
- Smart building implementation is also >75% at Ziauddin university.
- Number of renewable energy resources are solar power, combined Cooling, Heating & power (CCHP), Co-Generation, Hot Water Supply and 2x300 Tons Absorption Chiller which are implemented at Ziauddin university.

## 2. Energy & Climate Change

- Ziauddin University also implemented the three **elements of 'green building'** Interior Open Court, Internal Landscape & Air Ventilation System & Solar System to minimize Energy consumption on LED & HVAC by using Natural Air & maximum Sunlight in daylight.

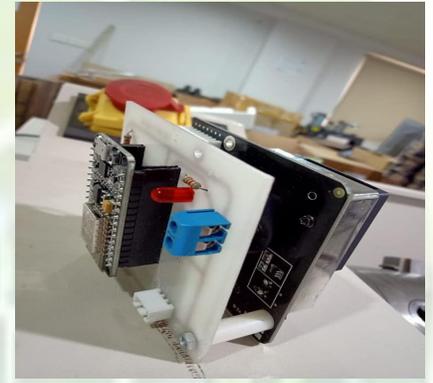


## 2. Energy & Climate Change

- Innovation is the strength of Ziauddin University and it always strives towards starting Innovative program(s). During Covid-19 Ziauddin University was also committed to start such programs which cater the need of time and are sustainable. Innovative programs of ZU during covid are as following:
  - Air Quality Monitoring Device
  - Vaccination Centre
  - Covid Wards
  - Legal Clinics
  - Incubation Centre
  - Airborne Infection Isolation (All) Rooms

## 2. Energy & Climate Change

- Moreover, related to energy efficient & climate change Ziauddin University Initiated Innovative program(s) University are as following:
  - Multi-Parameter Environmental Monitoring Device
  - Solar Parking





# Ziauddin University Solar Systems



### 3. Waste Management System



To meet the standards of proper hygiene and health safety, Ziauddin University centralizes the waste management system with the public waste management body.

### 3. Waste Management System

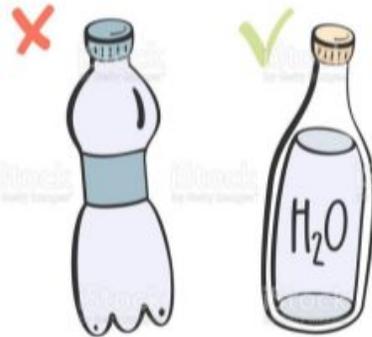
- Recycling program for university waste at Ziauddin University > 75
- Program to reduce the use of paper and plastic at Ziauddin University are 3 programs i.e: Limit printing, promote E-channels, restriction on use of plastic disposable bottles & plastic bags inside the campus.
- Organic waste treatment at Ziauddin university is Partial (1% - 25% of treated) for organic fertilizers for plantation.



NO Plastic Bottles are allowed  
in the campus



Say NO to Plastic Bottle  
Use Your Own Bottle



Search mail

Compose

- Inbox 25
- Starred
- Snoozed
- Sent
- Drafts 1
- More

Meet

- New meeting
- My meetings

Hangouts

- Syeda +

No recent chats  
Start a new one

From: Nehal Ashraf  
Sent: Monday, July 27, 2020 12:03:31 PM  
To: Mehwish Shafiq <mehwish.shafiq@zu.edu.pk>  
Cc: Dr. Muhammad Asif <asif.arif@zu.edu.pk>; zareen hussain <zareen.hussain@zu.edu.pk>  
Subject: RE: Power & Water Data Sheet.

Dear Mehwish,

Please find attached documents as required by you and allied.....

If any other documents more needed please send me the email.....

Thanks

Nehal Ashraf.

Group GM-Utilities & Maintenance.

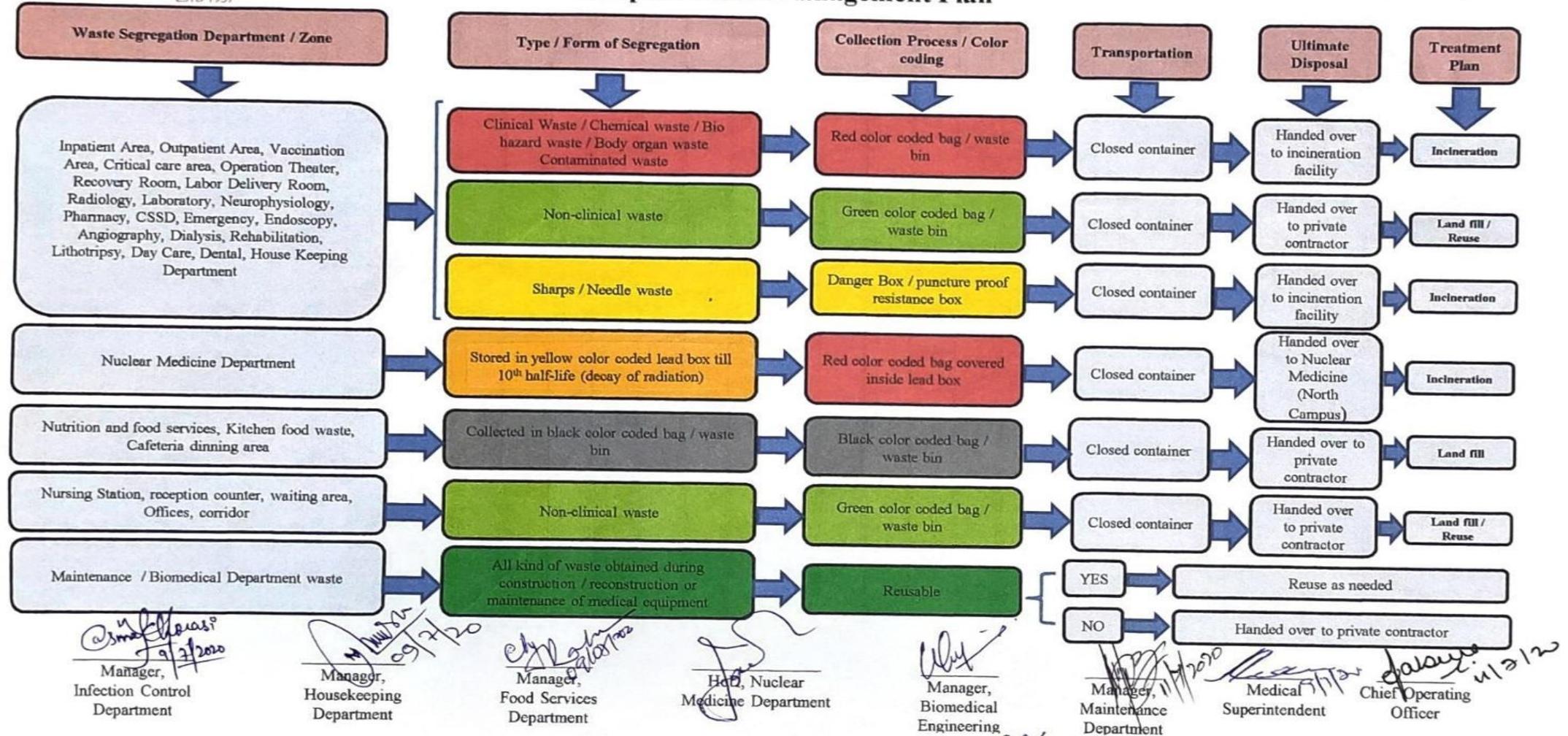
Think before you print. please consider our environment before printing this e-mail

## Program to reduce the use of paper and plastic



### 3. Waste Management System

- Inorganic waste treatment is Partial treated along with the KMC contact for dumping.
- Toxic waste is dumped with all precautions. Ziauddin University Hospital has a contract with KMC for collection of clinical hazardous and infectious waste for proper collection and disposal through the incineration process.
- Sewage disposal is untreated into waterways.





# INFECTION PREVENTION & CONTROL DEPARTMENT

## WASTE MANAGEMENT



### INFECTIOUS WASTE

Date: \_\_\_\_\_

Department \_\_\_\_\_

SIGN: \_\_\_\_\_

## ENVIRONMENTAL CLEANING



**RED MOP  
CLINICAL AREA /  
PATIENT ROOM**



**BLACK MOP  
WASH ROOM**



**YELLOW MOP  
CORRIDOR &  
OFFICES AREA**

**DEPARTMENT OF INFECTION CONTROL**

### 3. Waste Management System



Tool & equipment for proper Cleanness at Ziauddin Campuses & Hospital



Different colors bucket for organic & inorganic waste dumping at all Campuses & Hospital Sites

### 3. Waste Management System



KMC Truck usage for final Dumping of Waste management System at all sites of Ziauddin Hospital & Campuses

# KMC contract for Waste Management System



## KARACHI METROPOLITAN CORPORATION INCINERATION PLANTS, SOLID WASTE MANAGEMENT

Ground Floor of KW&SD Head Office, Old KBCA Building, Behind Civic Centre, Gulshan-e-Iqbal, Karachi.  
Phone: 021-99230450, Fax: 021-99230068.

FOR OFFICE ONLY

### ACKNOWLEDGMENT FORM OF REGISTRATION FOR MEDICAL HAZARDOUS WASTE

Date: 01-09-2019 Registration no: 242

Zone: \_\_\_\_\_ Name of Town: \_\_\_\_\_

Name of Institution: Dr. Ziauddin Hospital (Clifton)

Place of Institution Address: St # 4/B, Block 6 Scheme-5 Clifton

Phone No: 021-35712937 Fax No: 9221-35837212

Authorized representative/ Administrator / Owner: Saad Mo'in Khan

Nature of Institution:  Hospital  Clinic / Maternity Home  Pathological Lab / Blood Bank  
 General Practitioner Clinic

Number of Beds: 150 Waste Generation: \_\_\_\_\_

Number of Wards: \_\_\_\_\_ Daily Patients: \_\_\_\_\_

Present Mode of Waste Disposal: KMC

#### DECLARATION

I, the undersigned, solemnly declare that to the best of my knowledge and belief:

- (i) The information given above in this form are correct and complete;
- (ii) Detail of indirect discharges i-e no. of beds are truly stated;
- (iii) We have no other source of waste disposal activity; and

I, further declare that I am competent to make this form and verify it in my capacity as Administrator

of Dr. Ziauddin Hospital Clifton

Date: 01-09-19 Name: Saad Mo'in Khan Signature: [Signature]

Note: - 1. The alternative in the declaration which are not applicable should be scored out/written.

2. The verification should be signed by the authorized representative, Administrative, Owner.

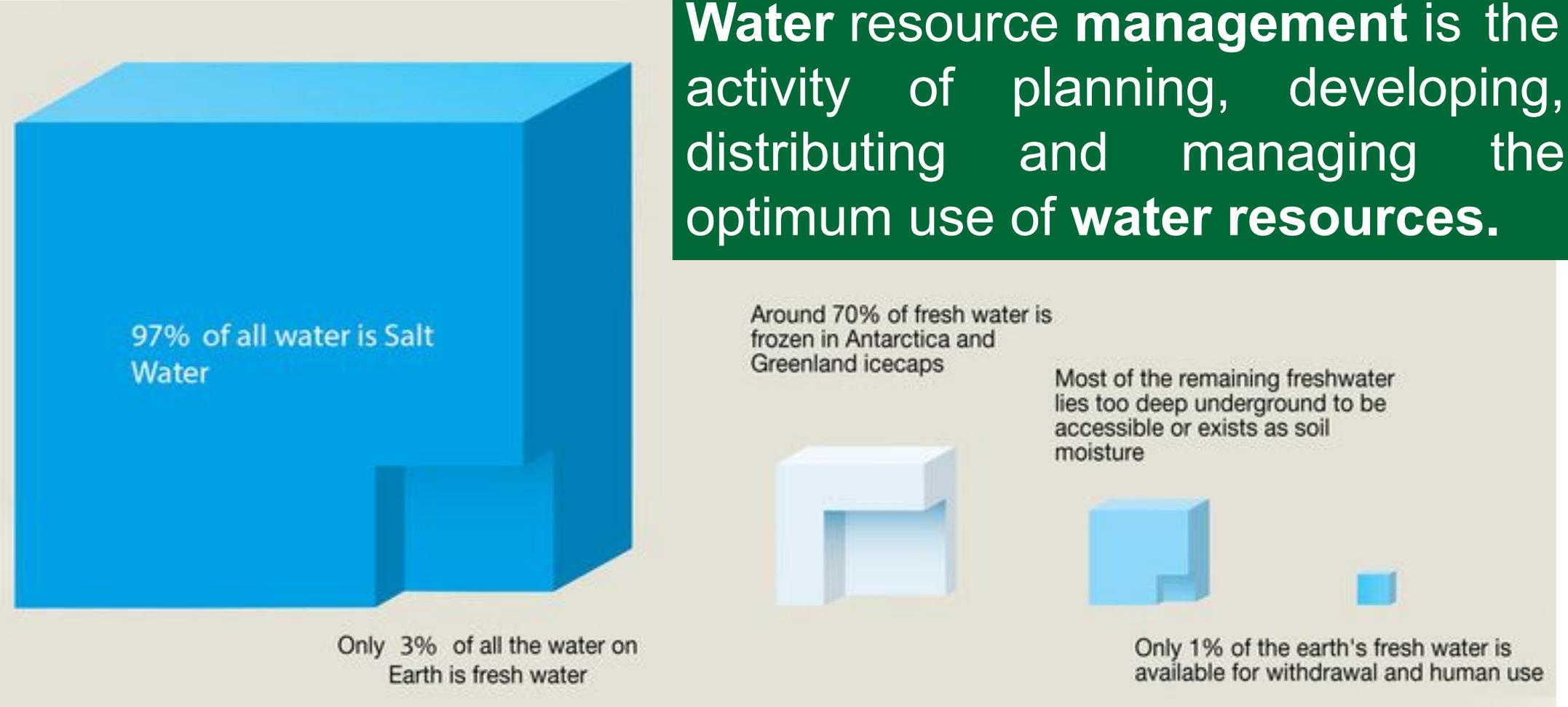
Inward No. \_\_\_\_\_

Date \_\_\_\_\_

Signature of official: [Signature]  
DIRECTOR  
SOLID WASTE MANAGEMENT  
KARACHI METROPOLITAN CORPORATION

# 4. Water Management System

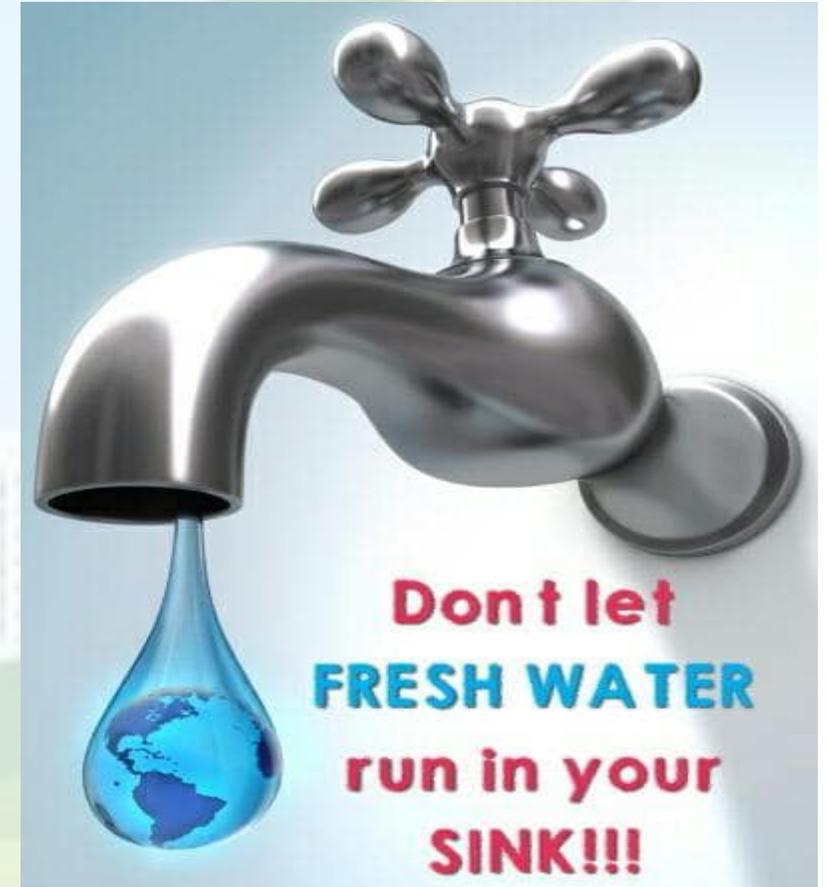
Water resource management is the activity of planning, developing, distributing and managing the optimum use of water resources.



## 4. Water Management System

At Ziauddin University, water consumption and utilization are according to the standard need which represents no water wastage along with water efficient appliance usage.

Water management and its treatment are at par with global policies and procedures.



## 4. Water Management System

- Water Conservation Program Implementation is in process. The Clifton site of the Ziauddin University is located near the sea, and the average TDS of seawater is 45000, therefore, RO plants are used for recycling the seawater that reduces the TDS to 450 - 500. This water is used for general usage. For drinking, the water is further treated by another small RO plant.

## 4. Water Management System

- The other campuses of Ziauddin University use the bore water after RO treatment. The average recycling of the water in Ziauddin University is 1.6 lacs gallon/day.
- Using Sprinkler and drip irrigation or high efficiency irrigation system for irrigation of all green area. Collect grey water separately and after processing use in irrigation purpose.

## 4. Water Management System

- The water efficient appliance usage is 25-50 % water efficient appliances installed.
- Treated water consumed > 75% through R.O Plant.
- Percentage of additional hand washing and sanitation facilities during pandemic at Ziauddin University > 75%

## 4. Water Management System



RO Plant & Water Treatment Process at Ziauddin Hospital & Campuses sites

## 4. Water Management System



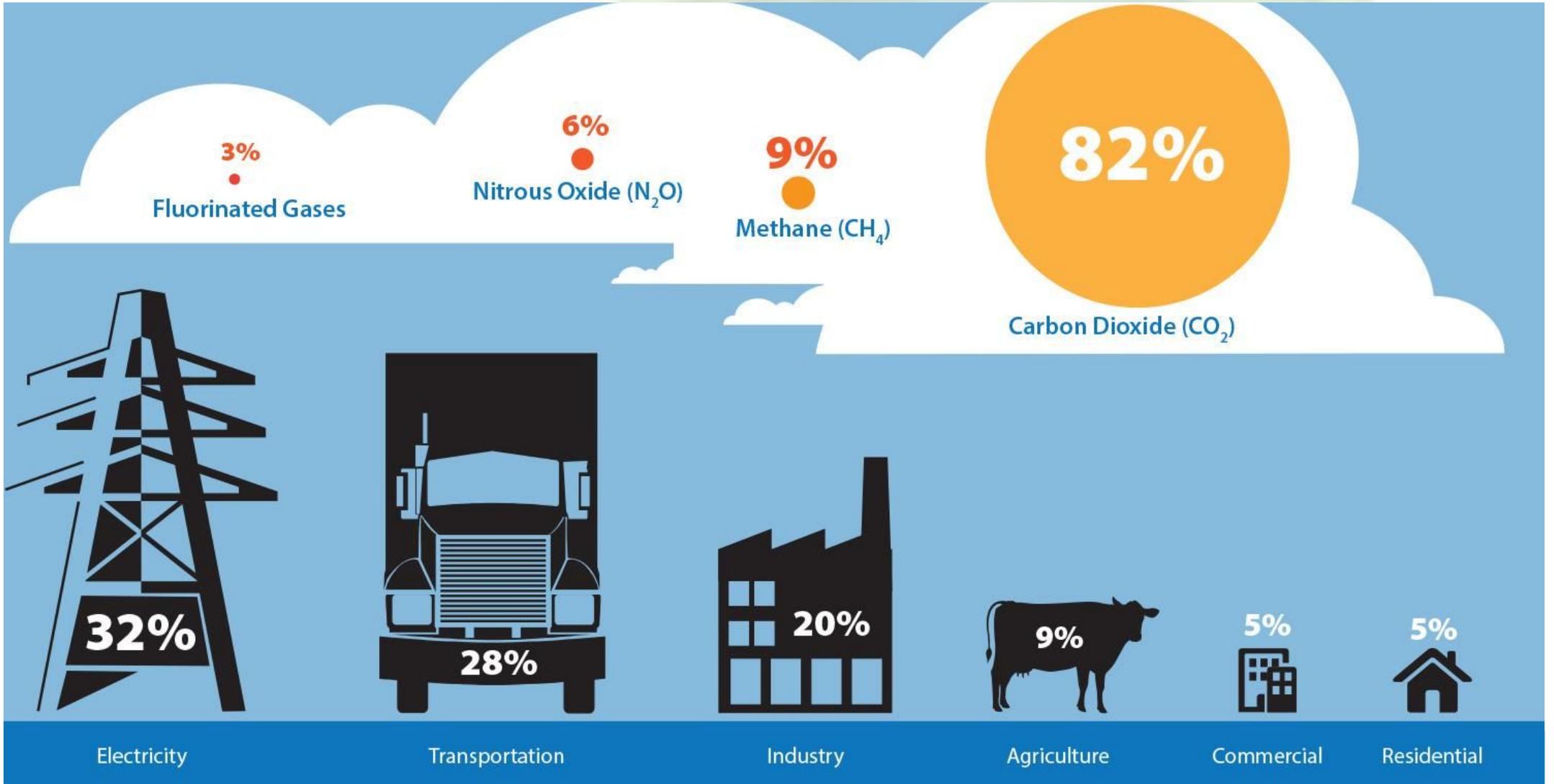
RO Plant & Water Treatment Process at Ziauddin Hospital & Campuses sites

# 4. Water Management System



Water Irrigation System (Recycled Water Supply for Plantation )

# 5. Transport Management System



## 5. Transport Management System

Ziauddin University is providing transportation services to university students and employees and minimizing greenhouse gas emissions.



## 5. Transport Management System

All Campuses or sites of Ziauddin University are **pedestrian friendly** as ZU campuses are purposely designed in a way that have multiple entrances and have vehicle-free paths to reach towards campus buildings. Ziauddin University not only pledged to become carbon free but to build a healthy society to promote walking trend in university students as well as faculty and administrative staff as human health is deteriorating day by day due to carbon emission. Therefore, Ziauddin University is keenly working to make its campus not only carbon free but to save the environment and reduce air and noise pollution too.

## 5. Transport Management System

- In addition to reduce carbon emission the Shuttle service provided by the Ziauddin university is regular & free and the number of shuttles operated from different areas to Ziauddin university Educational City, Link Road Site are 17 and capacity of passengers of each shuttle is 52. This helps to protect environment inside and outside campus from pollution.

# 5. Transport Management System



Ziauddin University Inside & Outside Parking

# 5. Transport Management System

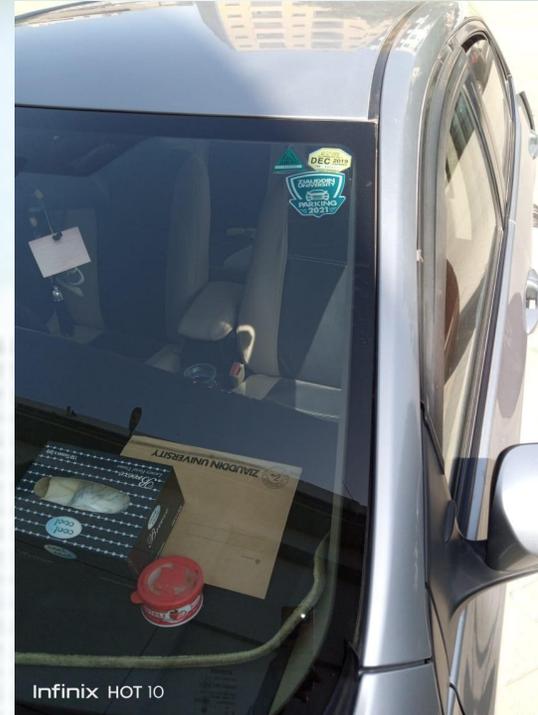


Ziauddin University Shuttle Services

## 5. Transport Management System

- Transportation program of ZU is designed to limit the parking area on campus -Program resulting in more than 30% decrease in parking area.
- The number of transportation initiatives to decrease private vehicles on campus are 3 such as, Shuttle service, Rideshare and Limited parking zone.
- Pedestrian paths are available, designed for safety, convenience, and with disabled-friendly features.

# 5. Transport Management System



Transportation initiatives to decrease the private vehicles inside the campus and decrease the parking area.

## 6. Education & Research

Ziauddin  
University  
educational and  
research efforts  
on SDG

- Research funding of worth 58.6 million from HEC on environmental monitoring for the weather forecast, contingent disease threat, and potential climate changes.
- Integration of environment and sustainability related courses in the curriculum.
- Installation of Air Pollution Monitors at different locations of Karachi.
- Allocation of budget on energy-efficient devices and appliances.

## 6. Education & Research

Ziauddin  
University  
educational and  
research efforts  
on SDG

- Climate Change Committee
- The first Climate Change Committee sat down to discuss leading climate issues. Mr. Butt, a leading climate change activist in Pakistan, spoke on the Pakistan Air Quality Initiative and the committee included many others such as Eric Sharoon, Muaz Shah and more

## 6. Education & Research

Ziauddin  
University  
educational and  
research efforts  
on SDG

- Climate Change Committee



# 6. Education & Research

Ziauddin University educational and research efforts on SDG

ZU SEMINAR

## 36 percent of Pakistan’s glaciers will disappear by 2100: experts

News Desk

In Pakistan, condition of climate change is very dangerous. Worldwide Pakistan is the 7th most vulnerable country to climate change and 3rd in South Asia. According to the Massachusetts Institute of Technology MIT, USA, 36 percent of Pakistan’s glaciers will disappear by 2100. Our glaciers are melting at unprecedented rates due to climate change.

Experts made these observations at an interactive public awareness seminar organised by the Department of Centre for Human Rights, Faculty of Law, Ziauddin University, and themed “Global Warming to Global Warning – A Social Justice Seminar on Climate Change” at Ziauddin University, according to a press release is-



An expert speaks at an interactive public awareness seminar organised by the Department of Centre for Human Rights, Faculty of Law, Ziauddin University — Photo courtesy: ZU



## 6. Education & Research

- Ziauddin University is passionately working towards Sustainability. In connection to this sustainability office in Ziauddin University is established. This would be helpful in generating inclusive and focused effort for achievement of approved SDGs priorities of Sindh 2025 Vision. University sustainability website is available, accessible, and updated regularly <https://zu.edu.pk/oric/sustainability>
- Ziauddin University offers number of courses related to sustainability are 272 out of 1326 in various programs.
- The ratio of sustainability courses to total courses is > 20 %

## 6. Education & Research

### QUESTIONNAIRE RECORDS

- Research is integral part of Sustainability and essential in developing solutions to some of the most pressing environmental, economic, and social challenges of sustainability. Total research funds dedicated to sustainability research average per annum over the last 3 years is \$ 135025 and number of scholarly publication on sustainability is 62 for the last three years.
- Not only faculty but students of ZU are also playing their part to build clean, Green and sustainable society such as, ULSF Association of UNIVERSITY LEADERS FOR A SUSTAINABLE FUTURE and ZU Sustainable Society.



## Events related to Sustainability



## 6. Education & Research

- Covid 19 Pandemic badly affect educational institution in Pakistan but Ziauddin University vigilantly cope with this issue and initiated various programs such as, Google Meet for Online Classes, Google Classrooms for assignments, Live Q&A sessions, ZU Official Emails, Webinars, Virtual National & International Conferences, Call Support, Online Viva, Trainings & Interviews and Coursera Online Skills Courses. These programs helps to cope student and faculty in teaching and learning and supports all administrative task during pandemic.



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zcon.zu.edu.pk

K-65, Block F, North Nazimabad, Karachi.

## Cultural Activities at Ziauddin University



## 6. Education & Research

- Number of sustainability community services project organised and/or involving students by Ziauddin University is More than 3. Which are as following:

● Rotaract Club of Karachi Sunrise	● MAITS Global Disability Training
● Welfare Aid for Ill & Deprived	● ZCS Ziauddin Community Services
● M.E.S.O Pakistan	● MTFT & Rah-e-Naiki

## 6. Education & Research

- Number of sustainability-related startups at Ziauddin University are 5-10. Which are as following:

● Sehat Kahani	● Kamyab Nojawan
● EduLearn Tools	● Solar Parkings
● Legal Clinic	● Incubation Centre
● Multi-Parameter Environmental Monitoring Device	



روٹرکٹ کلب آف کراچی سن رائزر کی جانب سے وومن ہیلتھ آوارنس پروگرام کا انعقاد



# Sustainability Community Services Project at Ziauddin University



## 6. Education & Research



22 June 2018



23 January 2019



15 October 2019

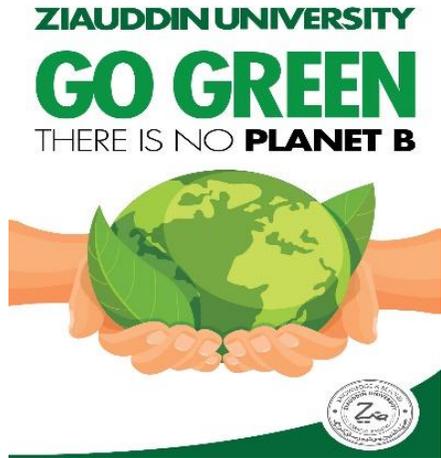
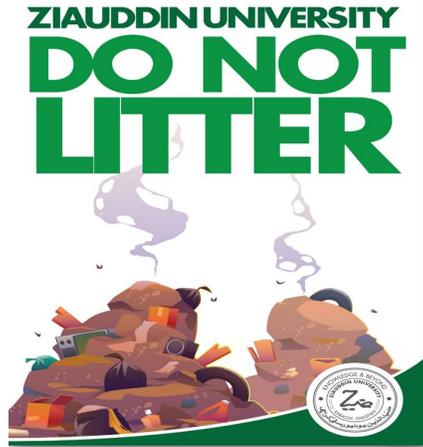


8 June 2020

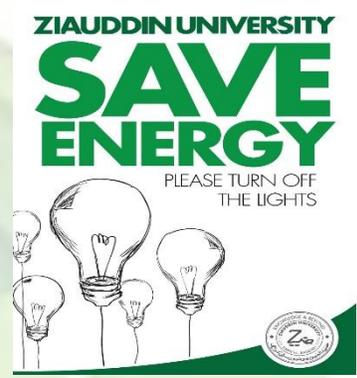
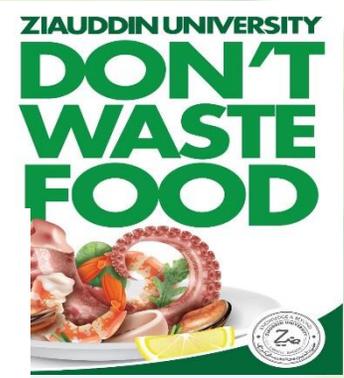


An efforts towards Green Environment by Chairperson Civil Engineering, Engr. Syed Faraz Jafri  
Ziauddin University exertions for Green Environmental structure at all its campuses sites

# 6. Education & Research



ZIAUDDIN UNIVERSITY  
**RECYCLE EVERYTHING**



ZIAUDDIN UNIVERSITY  
**PLANT A TREE**

EVEN IF IT IS YOUR LAST DEED



*Thank you*