



HAZARA UNIVERSITY, MANSEHRA PAKISTAN

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SIXTH SUSTAINABILITY REPORT 2025-26



Directorate Quality Enhancement

The Sustainability Team



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Vice Chancellor
Hazara University

A professional headshot of Lt Cdr (R) Dr. Mahmood Khan, a man with glasses and a mustache, wearing a grey suit, white shirt, and blue tie.	A professional headshot of Dr. Raja Umer Sajjad, a man with glasses and a beard, wearing a dark blue shirt and a green lanyard.	A professional headshot of Dr. Aurangzeb Khan, a man with dark hair, wearing a white shirt, yellow tie, and blue lanyard.
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Preface

The Sixth Sustainability Report of Hazara University (2025–26) reaffirms the University's commitment to advancing sustainability through excellence in education, research, innovation, community engagement, and environmentally responsible campus operations. As a leading public-sector institution of higher learning, Hazara University recognizes its responsibility to contribute to sustainable development by integrating environmental, social, economic, and governance considerations into its policies, academic programs, research initiatives, and institutional practices. This report presents the University's progress and achievements during the reporting period, highlighting initiatives related to sustainable infrastructure, energy and water conservation, waste management, biodiversity protection, digital transformation, sustainable transportation, and community outreach. It also reflects our continued efforts to foster sustainability awareness and responsible citizenship among students, faculty, and staff.

Hazara University's sustainability vision is closely aligned with the United Nations Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education), SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), SDG 15 (Life on Land), and SDG 17 (Partnerships for the Goals). Through participation in the UI GreenMetric World University Rankings and other sustainability initiatives, the University remains committed to continuous improvement, transparency, and evidence-based decision-making. This report serves as a reflection of our collective efforts and achievements while providing a roadmap for future actions aimed at creating a greener, more resilient, and inclusive campus that contributes to regional, national, and global sustainable development.





HAZARA UNIVERSITY 2030 SUSTAINABILITY STRATEGY

A SUSTAINABLE CAMPUS • A RESILIENT FUTURE • A BETTER WORLD

Hazara University is committed to creating a greener, smarter and more resilient campus that contributes positively to people, planet and prosperity by 2030 and beyond.

OUR VISION 2030

To be a leading sustainable university that inspires change, advances knowledge, and drives positive impact for a resilient and inclusive future.

OUR MISSION

To integrate sustainability in education, research, operations and community engagement by promoting environmental stewardship, social responsibility, economic resilience and good governance.

OUR COMMITMENT

- Decarbonise our campus and achieve climate resilience
- Promote resource efficiency and circular practices
- Ensure a healthy, inclusive and vibrant campus community
- Advance knowledge and innovation for sustainable development
- Partner with local, national and global stakeholders for greater impact

1. DECARBONISATION & CLIMATE ACTION

- Reduce greenhouse gas emissions across campus operations
- Increase renewable energy use to 30% by 2030
- Improve energy efficiency in buildings and systems
- Promote low-carbon transport and sustainable mobility
- Integrate climate action in planning and risk management

2. ENVIRONMENTAL SUSTAINABILITY

- Conserve water and promote water efficiency
- Protect biodiversity and expand green spaces
- Implement 3R (Reduce, Reuse, Recycle) and zero waste to landfill approach
- Ensure clean air, noise and environmental quality

3. EDUCATION & RESEARCH FOR IMPACT

- Embed sustainability in curriculum and pedagogy
- Promote interdisciplinary research for sustainable solutions
- Build capacity on sustainability literacy and digital skills
- Inspire innovation, entrepreneurship and responsible leadership



4. PEOPLE & WELL-BEING INCLUSIVE CAMPUS

- Foster a safe, healthy and supportive learning environment
- Promote diversity, equity and inclusion in all spheres
- Enhance student engagement in sustainability initiatives
- Support physical and mental well-being of campus community

5. SUSTAINABLE OPERATIONS & RESOURCE EFFICIENCY

- Practice responsible procurement and sustainable supply chains
- Digitise processes and promote paperless operations
- Optimize use of resources (energy, water, materials)
- Strengthen infrastructure for resilience and sustainability

6. PARTNERSHIPS & COMMUNITY ENGAGEMENT

- Collaborate with government, industry, NGOs and alumni
- Engage local communities in sustainability projects
- Contribute to regional and national sustainable development
- Promote global partnerships and knowledge sharing

OUR 2030 TARGETS

- 30% Reduction in GHG emissions (Baseline year 2023)
- 30% Renewable energy share in total energy consumption
- 30% Improvement in water use efficiency
- 80% Waste diversion from landfill
- 25% Increase in green cover on campus
- 100% Sustainability integration in academic programs
- 100% Student participation in sustainability initiatives

ALIGNED WITH UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS



TOGETHER FOR A SUSTAINABLE TOMORROW

Hazara University is committed to creating a greener, smarter and more resilient campus that contributes positively to people, planet and prosperity by 2030 and beyond.

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Chapter 1: Introduction and Overview

1.1 University Profile

Hazara University, Mansehra, is a premier public-sector university of Khyber Pakhtunkhwa, Pakistan. Established in 2001 under the Hazara University Act 1997 and formally inaugurated on 14 April 2002, the University has grown into a leading center of higher education, research, and innovation serving the Hazara region and beyond. Situated in the scenic and environmentally rich surroundings of Dhodial, Mansehra, Hazara University is committed to academic excellence, sustainable development, and community engagement.

1.1.1 Vision Statement

To be a standard university by providing quality education to develop scientific innovation, technological advancement and economic leadership through academic excellence with contemporary research relevance.

1.1.2 Mission Statement

To create a conducive environment, open to the free exchange of ideas and knowledge where research, creativity, innovation, industry academia-linkages, use of advance technology and entrepreneurship can flourish to assist in making the society more enlightened, responsible, peaceful and sustainable. It further aims to provide a l environment in which students, faculty and staff can discuss, examine, preserve, transmit the knowledge, wisdom, social and ethical values to ensure the survival of humanity to improve the overall quality of life.

1.1.3 Quality Policy

In the contemporary era, Pakistan's higher education system is undergoing significant transformation, expanding dynamically and embracing the importance of learning outcomes within quality assurance frameworks. These initiatives play a vital role in improving academic performance, guiding academic audits, and enhancing institutional credibility.

Clearly defined educational objectives are now central to ensuring meaningful outcomes. These objectives not only provide students, employers, and stakeholders with a transparent

understanding of educational value but also contribute to continuous improvement in curriculum development, program monitoring, teaching practices, and pedagogical methodologies.

Such outcome-based approaches and structured processes offer a more tangible and accountable method of assuring academic quality, traditionally considered difficult to measure. To support this transformation, comprehensive policy guidelines are being developed to standardize and align institutional practices with national and international quality assurance standards.

These guidelines serve as a foundation for establishing Hazara University's Quality Policy, ensuring it reflects global best practices while addressing local academic needs and aspirations

Aim

The Quality Assurance Policy of Hazara University aims to strengthen the Quality Culture in learning & research activities, enhance the quality of research output and provide support for implementing National and International standards.

Vision

To aim for Quality Education on Continual basis at Hazara University through quality practices, inputs and by implementing world class Quality Standards.

Mission

The Directorate of Quality Enhancement (DQE) is devoted to continually enhance excellence in the institutional processes by uplifting the spirit of focusing on quality delivery of educational services, to achieve satisfaction of stakeholders/students and to promote public confidence that the standards of the award of degrees are enhanced and safeguarded.

Quality Assurance Policy Statement

To promote quality culture in higher education & research at HU based on self-assessing, to obtain improved outcome in view of the University's main vision/objectives duly in compliance to the HU Mission.

Compliance with Statutory Requirements

Hazara University ensures that every individual working for or studying in HU shall comply with the University Act, Statues, Regulations, Rules and Policies.

Basic Principle of Quality Assurance Policy

Hazara University will serve the community and meet the challenging needs of national and international market by providing quality higher education through effective and efficient quality assurance system underpinned by quality teaching, learning and research. University will also inculcate ethical values in students through its programs to become better citizens. The QA policy of Hazara University is having a holistic approach, based on self-assessment keeping focus on Quality improvement through comprehensive framework.

Students' Focus

Students are direct customers of the university; therefore, HU is committed to produce highly qualified manpower related to multidisciplinary fields. University ensures meeting students' professional needs and expectations and appreciates their role in maintaining a progressive learning environment.

Stakeholders Focus

Every stakeholder is important to the university, therefore HU endeavors to provide encouraging, flexible, empowered, cohesive and congenial working environment to create, assimilate and analyze knowledge for the ultimate benefit of academia, industry, government and society.

Knowledge Creation and Dissemination

HU is focused on conducting multidisciplinary research to create knowledge to resolve political, socio, technological and environmental issues and to disseminate this knowledge through trainings, workshops, conferences and research journals to various national and international institutions.

Business Startup

Hazara University is focused on facilitating startups and creating businesses based on multidisciplinary fields.

Linkages and Networking

HU establishes strong ties with various national and international universities, industries, INGOs, NGOs, organizations and government.

Optimization of Resources

HU is focused that the Human Capital, infrastructure and financial resources must be utilized optimally for accruing and sustaining benefits.

Environment Friendly

HU is committed to making campus(es) environment safest, green and clean and to provide a rewarding and challenging environment for faculty, staff and students to kindle and sustain a passion for excellence. More than 51% of the campus area comprise of forest, gardens, lawns and vegetation.



1.1.4 Academic Faculties and Departments

Hazara University is a comprehensive public-sector institution offering a wide range of undergraduate, graduate, and doctoral programs through its four academic faculties, comprising more than 34 departments.

Faculty of Arts and Humanities

- Archaeology
- Architecture
- Art & Design
- Communication & Media Studies
- Education
- English
- Pakistan Studies
- Tourism & Hospitality
- Urdu

Faculty of Biological and Health Sciences

- Agriculture
- Biochemistry
- Biotechnology & Genetic Engineering
- Botany
- Microbiology
- Pharmacy
- Zoology

Faculty of Law and Social Sciences

- Economics
- Islamic & Religious Studies
- Law
- Management Sciences
- Political Science & International Relations
- Psychology

- Public Policy & Administration
- Sociology

Faculty of Natural and Computational Sciences

- Bioinformatics
- Chemistry
- Computer Science & Information Technology
- Earth & Environmental Sciences
- Mathematics & Statistics
- Physics
- Telecommunication

1.1.5 Administrative Departments and Offices

Hazara University operates through a well-established administrative structure that supports academic excellence, research, student services, financial management, infrastructure development, and institutional governance. The University's major administrative departments and offices include:

Statutory Offices

- Vice Chancellor Secretariat
- Registrar Office
- Treasurer / Directorate of Finance
- Controller of Examinations
- Provost Office

Directorates

- Directorate of Administration
- Directorate of Academics and Research
- Directorate of Quality Enhancement (DQE/QEC)
- Directorate ORIC (*SEE; RI-Units below*)
- Directorate of Information Technology (DIT)
- Directorate of Planning and Development (P&D)

- Directorate of Works
- Directorate of Student Affairs
- Directorate of Sports
- Directorate of Training
- Directorate of University Advancement and Financial Aid (UAFA)

Research and Innovation Units

- Office of Research, Innovation and Commercialization (ORIC)
- Central Research Laboratory

Student Support and Service Units

- Student Service Center (SSC)
- Medical Center
- Sir Syed Ahmad Khan Library
- Procurement Office

These administrative departments work collaboratively to ensure effective governance, quality assurance, financial accountability, digital transformation, student support, research promotion, infrastructure development, and implementation of sustainability initiatives across the University.

1.1.6 University Rankings

	2021	2022	2023	2024	2025	2026
Time Higher Education World University Ranking (THE-WUR)	<i>(announced 02-09-2020)</i> 601-800	<i>(announced 02-09-2022)</i> 601-800 /1700 PAK-2 KP-1	<i>(announced 27-09-2023)</i> 801-1000 /2673 PAK-9 KP-2	<i>(announced 12-10-2024)</i> 1001-1200 PAK-22 KP-3	<i>(announced 08-10-2024)</i> 1001-1200 /2092 PAK-22 KP-3	<i>(announced 09-10-2025)</i> 1001-1200 /3118 PAK-26 KP-3
THE-Young Universities Ranking	—	<i>(announced 15-02-2022)</i> 200/796 (Sc: 37.2) PAK-4 KP-2	<i>(announced 03-07-2023)</i> 201-250 /963 PAK-5 KP-2	<i>(announced 14-05-2024)</i> 251-300 /1172 PAK-9 KP-2	—	—
THE-Impact Ranking	1001⁺/1406 (Sc:46.3)	601-800 /1531 PAK-9 KP-1	<i>(announced 01-06-2023)</i> 1001⁺/1591 (Sc:51.4) PAK-8 KP-3	801-1000 /1963 PAK-28 KP-1	<i>(announced 18-06-2025)</i> 801-1000 /2318 PAK-28 KP-1	—
THE-Interdisciplinary Science subjects	—	—	—	World-251 PAK-11 KP-2	World-501 PAK-12 KP-4 Phys. Scs: 501-600 Life Scs: 601-800	—
THE-Asia	—	<i>(announced 01-06-2023)</i> 169/616 (Sc:36.6)	<i>(announced 22-06-2023)</i> 181/669 PAK-8 KP-2	<i>(announced 30-04-2024)</i> 301-351/1127 PAK-13 KP-3	<i>(announced 23-04-2025)</i> 401-500/1213 PAK-27 KP-4	—
QS-Asia	—	<i>(announced 08-11-2022)</i> 551-600	<i>(announced 08-11-2023)</i> 701-750 South Asia#219	<i>(announced 04-11-2024)</i> 601	<i>(announced 04-11-2025)</i> 614	—

Hazara University Manshera
2024 - 2025
RANKINGS

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UI GREENMETRIC WORLD UNIVERSITY RANKINGS
THE MOST SUSTAINABLE UNIVERSITY OF KHYBER PAKHTUNKHWA FOR THE YEAR 2024

THE WORLD UNIVERSITY RANKINGS
TIMES HIGHER EDUCATION

QS WORLD UNIVERSITY RANKINGS

UI GREENMETRIC 2024
World University Ranking
463 in World
09 in Pakistan
01 in Khyber Pakhtunkhwa

THE INTERDISCIPLINARY SCIENCE 2024
World University Ranking
251-300 in World
11 in Pakistan
02 in Khyber Pakhtunkhwa

QS ASIA 2024
Asia University Ranking
601-620 in Asia

QS SOUTH ASIA 2024
South Asia University Ranking
179 in South Asia

HAZARA UNIVERSITY GLOBAL RECOGNITION 2026




Congratulations

THE World University Rankings 2026

★ Proud moment for Hazara University
★ Shining on the world stage with academic excellence and impactful research!

- 1001-1200**
Ranked 1001-1200 among 3118 universities worldwide
- 21ST**
21st among 99 (48) Pakistani universities in the General category
- 03RD**
3rd position in KP out of 14 universities
- 68.1**
Ranked in Quality Research in the TOP 68.1 percentile & above worldwide

UI-GreenMetric Ranking

	2018	2019	2020	2021	2022	2023	2024	2025
UI-GreenMetric Ranking	714/718 (1250) PAK-30 KP-4	719/780 (2500) PAK-31 KP-3	567/911 (4700) PAK-18 KP-3	398/956 (6000)  PAK-11 KP-1	361/1050 (6725)  PAK-8 KP-2	402/1182 (6825)  PAK-11 KP-2	463/1476 (6825) PAK-9 KP-1	545/1745 (6700) PAK-16 KP-1

CONGRATULATION
HAZARA UNIVERSITY RANKED FOR 2025 SUSTAINABLE UNIVERSITY



World 1745 Universities and HEIs across 105 Countries

World Rank	University	Total Score	SI Score	EC Score	WS Score	WR Score	TR Score	ED Score
545	Hazara University Mansehra, Khyber Pakhtunkhwa (KP) Pakistan Pakistan, Asia	6700	1000	1625	1075	750	1275	975

In World	In Asia	Pakistani Selected 107 Universities (g) and HEIs	Khyber Pakhtunkhwa among Public Sector Universities	Northern KP Universities
545 th Position	310 th Position	16 th Position	1 st Position	1 st Position

UI GreenMetric World University Rankings 2025

CERTIFICATE

This certificate is awarded to

Hazara University Mansehra, Khyber Pakhtunkhwa (KP) Pakistan

as The 545th World's Most Sustainable University in 2025 UI GreenMetric World University Rankings

5 December 2025

Dr. Vishnu Juwono, S.E., MIA
Chairperson of UI GreenMetric

Chapter 2: Setting and Infrastructure (SI)

2.1 Campus Profile, Land Use and Infrastructure

2.1.1 Campus Land Use & Land Cover

Based on its location and surrounding land use, Hazara University, Mansehra is best classified as a **Rural University Campus** (with some peri-urban/suburban influence due to its connection to Mansehra city, China Pakistan Economic Corridor (CPEC) route and the Karakoram Highway). The main campus is situated in *Gul-Maira (Flowers-plateau)* near Dhodial town, about 14 km north of Mansehra city, surrounded by agricultural land, forests, rolling hills, and open natural landscapes rather than dense residential, commercial, or high-rise developments. The university itself describes the area as a serene, pollution-free environment with pine groves, forests, and mountain views. Therefore, it does **not** fit the characteristics of an urban campus (dense built-up city fabric) or a high-rise building district (concentrated tall commercial and residential structures). Instead, it exhibits the key characteristics of a **rural campus**: low building density, abundant open space, natural surroundings, agricultural land nearby, and separation from the main urban core. Its accessibility via the CPEC route, Karakoram Highway and proximity to Mansehra give it some suburban connectivity, but its dominant physical and environmental characteristics place it firmly in the **rural category**.

Figure 2.1 presents Hazara University's Land Use and Land Cover profile. Hazara University covers a total area of **494,408 m²**, comprising a balanced mix of developed infrastructure and natural landscapes. Built-up areas occupy **237,316 m² (48%)** of the campus, accommodating academic, administrative, residential, and support facilities, while the remaining **257,092 m² (52%)** consists of open spaces, resulting in an open space to built-up area ratio of approximately **1.08:1**. The open spaces are further distributed into **vegetation cover (20%)**, **bare land (18%)**, and **forest area (14%)**, reflecting the university's strong environmental character. The substantial proportion of vegetation and forested land enhances biodiversity, improves microclimatic conditions, supports ecological resilience, and provides recreational and aesthetic benefits. Meanwhile, the bare land areas contribute to natural

drainage, water infiltration, and future landscape development opportunities. Overall, the balanced distribution of built and natural land uses demonstrates Hazara University’s commitment to environmental sustainability while effectively supporting its academic and administrative functions.

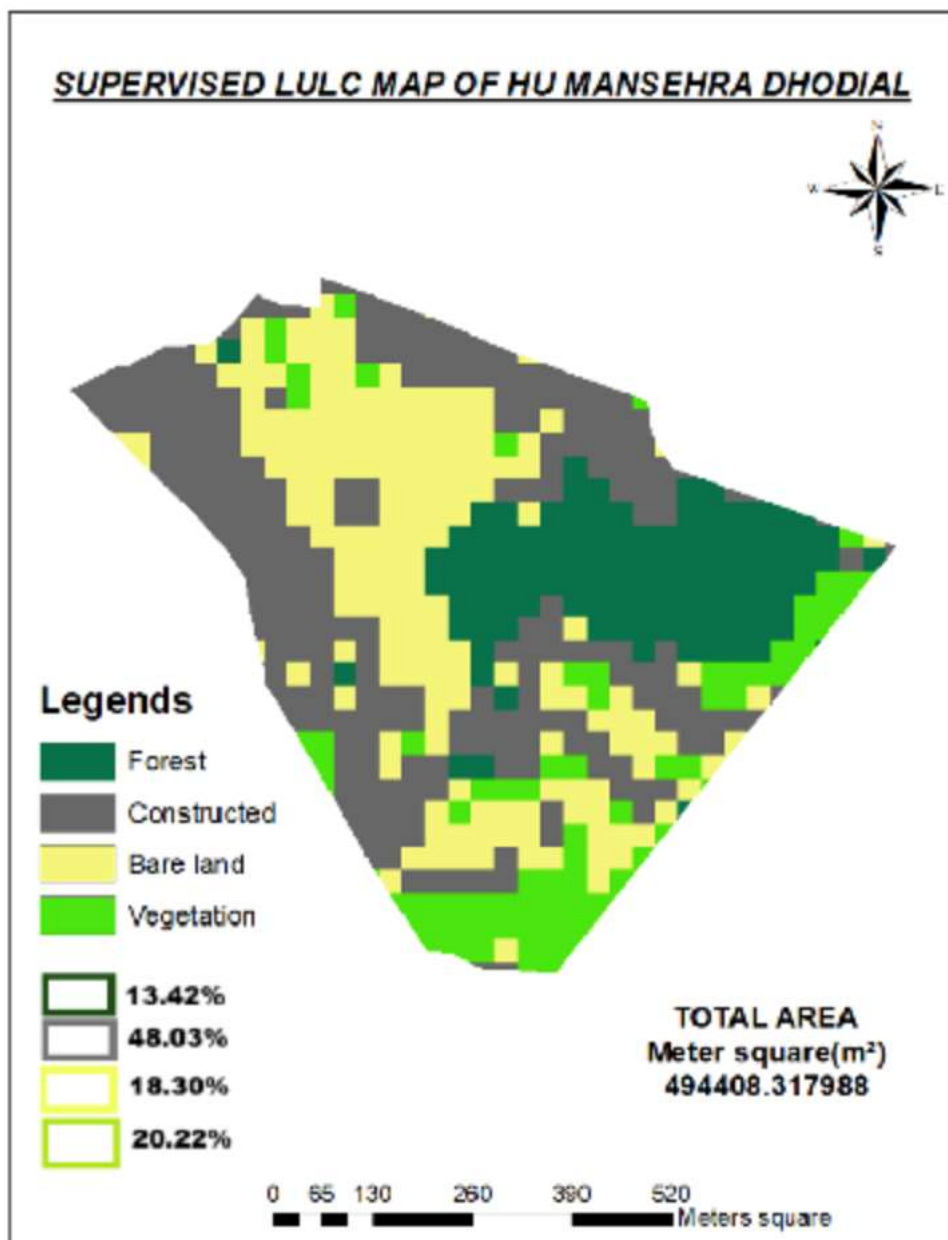


Figure 2.1: Hazara University Land Use and Land Cover Profile

2.1.2 Campus Facilities for Disabled and Special Needs

Typically, the campus includes **ramped access, footpaths, and ground-level academic blocks** to support mobility for students with physical disabilities, along with **priority access in administrative and examination areas where possible**. Overall, these provisions aim to ensure minimum accessibility, health support, and inclusive participation, although the level of specialized disability and maternity infrastructure may still be developing compared to fully modernized urban campuses.



2.1.3 Security and Safety Services

At Hazara University, security and safety services are typically managed through a combination of on-ground security personnel and basic surveillance infrastructure. The campus generally includes **entry gate control points, deployed security guards, and routine patrolling** to monitor student movement and ensure campus safety. In addition, many university buildings are supported by **CCTV surveillance systems**, particularly around key locations such as main entrances, administrative blocks, examination halls, hostels, and parking areas. In total, 140 CCTV cameras are being used for surveillance purpose including 5 PTZ cameras. Data is stored at different location for precautionary measures. Further, Complete boundary wall of the campus is being monitored by around 78 high tech cameras, around the clock. These cameras are usually linked to a **central monitoring room or security control office**, where staff can observe live feeds and respond to incidents in real time. Together, these measures help maintain discipline, regulate access, and enhance the overall safety environment within the university campus, although the extent of coverage may vary across different sections of the university.

In case of emergencies such as accidents or security incidents, the university's response is generally **prompt and coordinated**, with on-duty guards and security staff reacting quickly to alert relevant departments, provide immediate assistance, and arrange medical support when necessary.



2.1.4 Health Infrastructure and Facilities

The Medical Center at Hazara University is located in a seven-room facility on campus and includes two separate wards for male and female patients. The center is staffed by a qualified healthcare team comprising three doctors (including a recently appointed female doctor), one Lady Health Visitor (LHV), one operation theatre technician, one male nurse, one security guard, three ward boys, and three ambulance drivers.

Equipped with emergency vehicles, the medical center provides 24/7 emergency medical services to students, staff, and their families. Its services have also been extended to include students of SOS and surrounding local communities in the vicinity of the university.

The wards are fully equipped with essential medical instruments, beds, and furniture to ensure effective and comfortable patient care. A laboratory facility has also been established to enhance diagnostic services, while emergency medicines are provided free of cost to students.

Over the past three years, the medical center has treated approximately 18,000 patients, highlighting its vital role in supporting the health and well-being of the university community.



2.1.5 Conservation Activities

The Wildlife pheasantry in Hazara University plays an important role in the conservation of flora and fauna by supporting breeding and protection of endangered pheasant species such as the Himalayan Monal, Koklass, Cheer, Kalij, and Golden pheasants. This conservation center helps maintain biodiversity through ex-situ breeding programs and reintroduction into natural Himalayan forests, while also serving as an educational and research hub for Hazara University students in wildlife and environmental sciences. The surrounding forested and landscaped environment reflects a moist temperate ecosystem that supports both vegetation and wildlife, where pheasants act as indicator species of ecological health. Overall, this system contributes to biodiversity conservation, environmental awareness, habitat protection, and ecological research in the Hazara region.



2.1.6 Impact of Infrastructure and Setting in Supporting SDGs

Hazara University's physical setting and infrastructure strongly contribute to multiple Sustainable Development Goals (SDGs) through its balanced land use, environmental planning, and institutional facilities. With about 48% constructed area and 52% open land consisting of forests, vegetation, and bare soil, the campus supports **SDG 15 (Life on Land)** by conserving biodiversity, maintaining habitat through pheasantry and natural vegetation, and promoting carbon sequestration. The allocation of vegetated land for research and community engagement also advances **SDG 4 (Quality Education)** and **SDG 13 (Climate Action)** by enabling environmental learning and climate-related research. Bare land areas designed for water absorption and runoff control contribute to **SDG 6 (Clean Water and Sanitation)** by enhancing natural rainwater infiltration and reducing flood risks. Solar-powered buildings and sustainable energy practices support **SDG 7 (Affordable and Clean Energy)**, while investment in research, development, and campus sustainability aligns with **SDG 9 (Industry, Innovation, and Infrastructure)**. Facilities for disabled individuals promote inclusivity under **SDG 10 (Reduced Inequalities)**, and strong security systems, CCTV coverage, emergency response services, and first aid facilities ensure safe learning spaces in line with **SDG 3 (Good Health and Well-being)**. Overall, Hazara University demonstrates an integrated campus model that supports environmental sustainability, social inclusion, and institutional resilience across key SDGs.



HAZARA UNIVERSITY

A SUSTAINABLE CAMPUS CONTRIBUTING TO THE SUSTAINABLE DEVELOPMENT GOALS (SDGs)



OUR CAMPUS AT A GLANCE

-  **48% CONSTRUCTED AREA**
Academic buildings, labs, libraries, hostels, administration, facilities
-  **52% OPEN AREA**
Covered by forest, plants, vegetation and bare land
-  **18% VEGETATED AREA**
Used for research, environmental studies and community engagement
-  **20% BARE LAND AREA**
For water absorption, rainwater infiltration and control of high flows



OUR KEY INFRASTRUCTURE & FACILITIES

-  Solar powered buildings
-  CCTV monitoring & full coverage
-  Facilities for disabled persons
-  First aid & emergency medical facility
-  Strong security & safety system
-  Well trained staff & good services
-  Good budget support for research, development & sustainability

HAZARA UNIVERSITY CONTRIBUTION TO SUSTAINABLE DEVELOPMENT GOALS (SDGs)

	GOOD HEALTH AND WELL-BEING	First aid facilities, emergency response system, trained staff and safe campus environment promote health and well-being.		REDUCED INEQUALITIES	Accessible facilities for disabled individuals ensure inclusion and equal opportunities for all students and staff.
	QUALITY EDUCATION	Quality education through modern facilities, research areas (18% land), field learning, environmental studies and community engagement.		SUSTAINABLE CITIES AND COMMUNITIES	Well planned campus, green spaces, safety, security and emergency preparedness create a sustainable community.
	CLEAN WATER AND SANITATION	20% bare land allows rainwater infiltration and groundwater recharge, helping maintain clean water and manage runoff.		RESPONSIBLE CONSUMPTION AND PRODUCTION	Efficient land use, responsible resource management and sustainable practices reduce environmental impact.
	AFFORDABLE AND CLEAN ENERGY	Solar powered buildings reduce dependence on fossil fuels and promote affordable, clean and sustainable energy.		CLIMATE ACTION	Forests, vegetation, carbon sequestration zones and solar energy help mitigate climate change and build resilience.
	INDUSTRY, INNOVATION AND INFRASTRUCTURE	Investment in research, modern infrastructure, technology, innovation and sustainable campus development.		LIFE ON LAND	52% open area with forests, vegetation and pheasantry conserves biodiversity, protects habitats and supports wildlife.

OUR NATURAL ASSETS

-  Carbon sequestration areas
Natural forests & vegetation
-  Pheasantry for wildlife conservation
-  Rainwater harvesting and water management
-  Green and healthy ecosystem



FOREST & VEGETATION



RAINWATER HARVESTING



PHEASANTRY - CONSERVING WILDLIFE



SOLAR POWERED BUILDINGS



CCTV MONITORING FOR SAFETY



HAZARA UNIVERSITY IS COMMITTED TO A GREENER, SAFER AND MORE INCLUSIVE FUTURE

Through sustainable infrastructure, research, conservation and community engagement, we are contributing to a better world and achieving the SDGs.



Chapter 3: Energy & Climate Change (EC)

3.1 Energy Efficiency, Renewable Energy and Climate Action

3.1.1 Energy Efficient Appliances

Hazara University has made significant progress in adopting energy-efficient lighting systems across its campus. The university has achieved complete replacement of conventional lighting with energy-saving alternatives in several categories, including 10,500 LED lamps (12 W), 10 fog lamps, 150 LED panel lights (2×2 ft, 40 W), 211 LED street lights, and 30 LED flood lights, all showing 100% energy-efficient coverage. Additionally, 3,000 fluorescent tube lights have been upgraded, achieving an 80% efficiency level. Overall, the campus maintains an average energy-efficiency rate of 96% for its lighting infrastructure, demonstrating a strong commitment to reducing electricity consumption, lowering greenhouse gas emissions, and promoting sustainable campus operations.

Appliance	Total Number	Total number energy Efficient appliances	Percentage
LED Lamp 12watt	10,500	10,500	100%
Fluorescent tube light 40 watt	3,000	3,000	80%
Fog Lamp	10	10	100%
LED lights 2x2 feet 40 watts	150	150	100%
LED Street Lights	211	211	100%
LED Flood Lights	30	30	100%
		Average Percentage	96%



3.1.2 Smart Building Implementation

Hazara University incorporates several smart and sustainable building features to all operational buildings (100%) in order to enhance operational efficiency, environmental performance, and occupant well-being. The campus is equipped with smart WiFi connectivity, comprehensive CCTV surveillance systems, and modern safety infrastructure to ensure a secure and connected environment. Buildings are designed to maximize natural lighting and

provide indoor green spaces that improve comfort and indoor environmental quality. Water reuse practices support efficient resource management, while automated humidity control systems help maintain healthy indoor conditions and reduce energy consumption. Furthermore, the integration of solar energy systems contributes to clean energy generation and supports the university's commitment to sustainability and carbon footprint reduction.

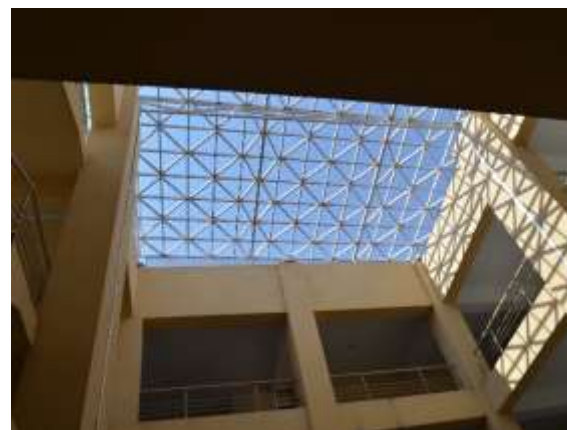
Min. At-least five requirements for each building

No.	Name	Place	Automation	Safety	Energy	Water	Indoor environment	Lighting	Building Area (m ²)
01	New Academic Blocks A	Mansehra, Pakistan	Y	Y	Y	Y	Y	Y	1410x8=11280
02	Administration Blocks B	Mansehra, Pakistan	Y	Y	Y	Y	Y	Y	1690x2=3380
03	Academic Block C	Mansehra, Pakistan	Y	Y	Y	Y	Y	Y	705x2=1410
04	Faculty of Education D	Mansehra, Pakistan	Y	Y	Y	Y	Y	Y	760
Total			4	4	4	4	4	4	16830



3.1.3 Renewable Energy Sources on Campus

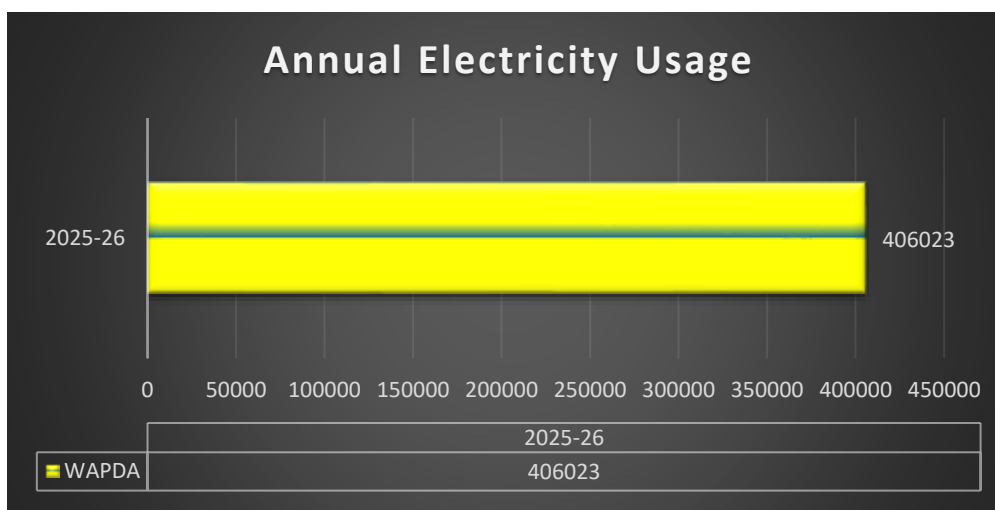
Hazara University actively promotes the use of renewable and sustainable energy sources across its campus. A 19 kW solar power system operates tube wells to ensure a continuous water supply for daily use, while solar panels installed on building rooftops provide clean energy for electricity, heating, and lighting in classrooms and corridors. Small wind turbines serve as backup renewable energy sources for UPS systems, enhancing energy reliability. The university also encourages innovation through student-developed solar-powered vehicles designed to improve mobility for persons with disabilities. Additionally, indoor and surrounding vegetation contributes to natural cooling and improved air quality, while building designs incorporate heat-trapping features that help retain warmth during winter, reducing overall energy demand. Together, these initiatives demonstrate the university's commitment to renewable energy, energy efficiency, and sustainable campus development.



3.1.4 Electricity Usage/Year (Kilowatt Hours)

The total electricity usage per annum of Hazara university Campuses in 2025-26 was 406,023 KWh

Name of Department	2025									2026		
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Prefabricated	828	828	900	352	800	790	608	595	596	768	1034	800
Faculty Hostel # 1	2667	1062	951	743	372	323	757	1832	2587	3934	3240	1764
Foreign Hostel	732	346	419	344	419	337	339	495	796	1195	1330	568
It Department	307	247	354	437	276	255	384	297	380	627	466	293
Block 4	552	416	461	221	353	115	108	189	206	350	303	188
Block # 1	Credit due Installed Solar System.											
Block # 2	2768	0	0	0	0	0	2920	640	5160	12080	8920	2772
Medical Superintendent	4469	3166	4018	4408	4166	3921	4010	3456	3488	5124	5102	3689
Education	639	640	793	894	631	638	709	671	700	871	650	418
Block # 3	0	0	41	337	135	354	151	131	137	269	259	202
Boys Hostel	5549	5014	7454	5808	4453	4081	5210	5889	9855	16529	13272	4801
Girls Hostel	9107	7761	9724	7421	4729	3884	5858	6864	8577	11595	11076	5880
Admin Block	661	674	1591	928	402	1348	683	683	1577	1405	2193	715
Telecom, Physics	4634	3180	4404	4284	4266	4436	4032	3781	4204	5823	4803	3851
Tube Well#1	2032	1934	1915	0	0	3006	1582	5156	1807	1785	553	325
Tube Well #2	4059	3474	4475	4511	3864	4032	3387	4236	4025	3244	2231	2213
Total Unit												406023



3.1.5 Ratio of Renewable Energy Production / Total Energy Usage

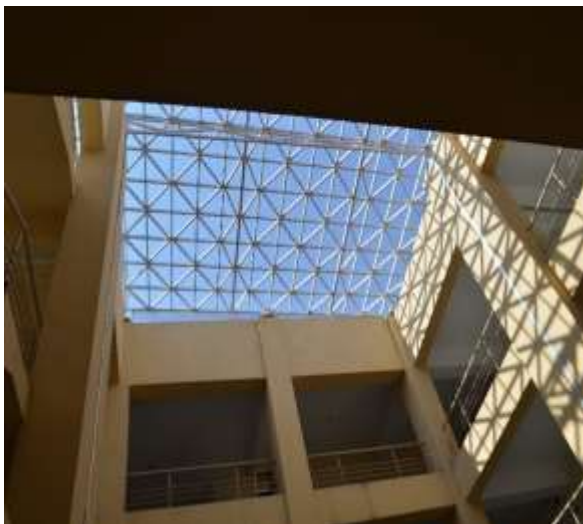
The campus has an annual electricity consumption of 406,023 kWh. Renewable energy sources contribute a portion of this demand through solar and wind power systems. Solar installations generate approximately 36,000 kWh per year, while wind turbines contribute about 2,500 kWh annually. Together, these renewable sources provide 38,500 kWh of clean energy, accounting for approximately **9.5%** of the total annual electricity consumption. This renewable energy contribution helps reduce dependence on conventional energy sources, lowers greenhouse gas emissions, and supports the university's commitment to sustainability and environmental stewardship.

No	Renewable Energy	Production (in kWh)
1	Biodiesel	0
2	Biomass	0
3	Solar panel	36000
4	Windmill	2500
	Total	38,500



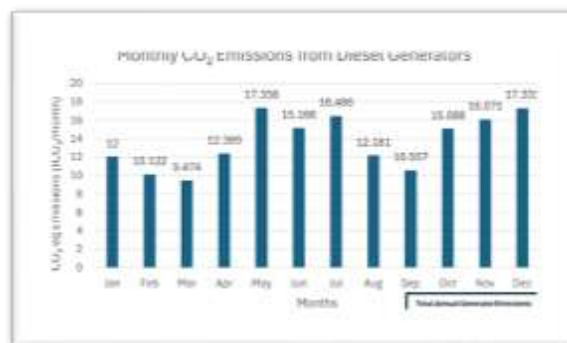
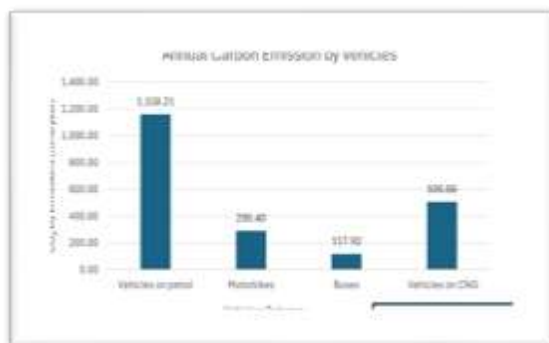
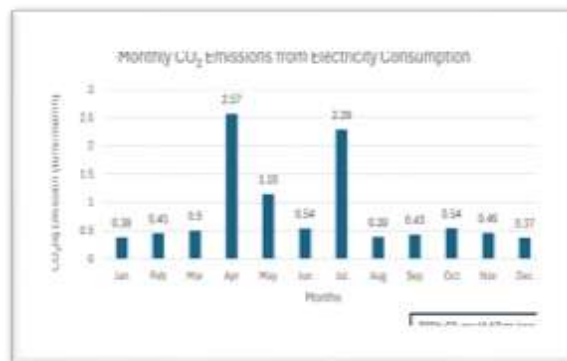
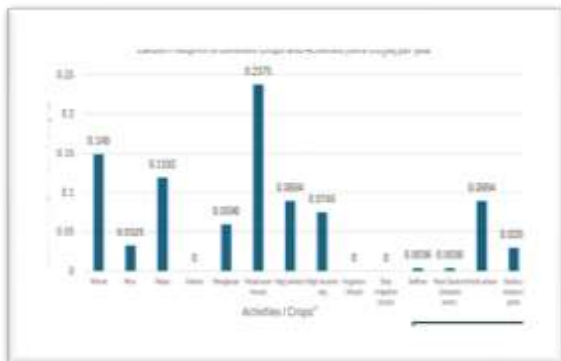
3.1.6 Elements of Green Building Implementation

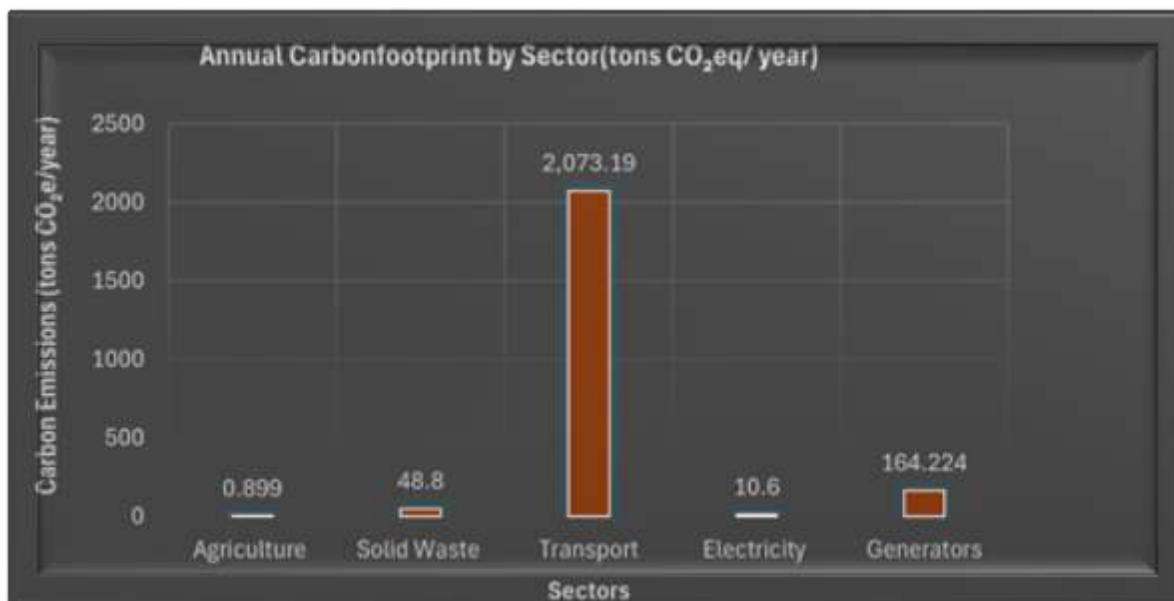
All buildings of the Main Campus of the University fulfil the requirements of Pakistan Standards for Buildings specifically the earthquake zone of safety & security, whereby some are of much higher standards. The elements of ‘green building’ such as an adsorption cooling for cooling purposes. Absorption of natural sun light throughout the buildings as well as design of the building support cross ventilation in the whole buildings for cooling effects. Majority of lightening used in daytime by all offices, classrooms and corridors. Similarly, each building has impervious area across all sides for rainwater and rooftop runoff absorption. The buildings are ensured to have adjacent bare land and vegetation cover to improve scenic aspects as well as lower albedo. Overall, each building has more than 3 elements of green building like impervious cover for runoff absorption, powered by renewable energy source (Solar) and cross ventilation and open roof top for maximum natural light utilization.



3.1.7 Total Carbon Footprint (CO₂ Emissions in Last Year in Metric Tons)

Based on the annual carbon footprint assessment of Hazara University, the **transport sector** is the largest contributor to greenhouse gas emissions, generating approximately **2,073.19 metric tons CO₂-equivalent (tCO₂e) per year**, accounting for the vast majority of campus emissions. This is followed by **disel-based generator use**, which emits about **164.22 tCO₂e annually**, while **solid waste management** contributes approximately **48.80 tCO₂e per year**. Emissions from **electricity consumption** are relatively low at **10.60 tCO₂e annually**, reflecting the contribution of renewable energy sources on campus. The **agriculture sector** has the smallest carbon footprint, emitting only **0.90 tCO₂e per year**. Collectively, these sectors generate a total annual carbon footprint of approximately **2,297.71 metric tons CO₂-equivalent (tCO₂e) per year**, with transportation representing over 90% of the University's total emissions and therefore offering the greatest opportunity for future emission reduction initiatives. For a university campus the size of Hazara University (large land area, thousands of students, staff, buses, and vehicles), a **total carbon footprint of around 2,300 tCO₂e/year is relatively low to moderate**.





3.1.8 Greenhouse Gas Emissions Reduction Program

Hazara University has implemented several ongoing programs and initiatives aimed at reducing greenhouse gas (GHG) emissions and promoting environmental sustainability across the campus. These measures include:

- Introduction of a compulsory 3-credit-hour course on **Climate Change Adaptation and Mitigation** for students of all departments to enhance awareness, knowledge, and understanding of climate-related challenges and solutions.
- Implementation of a **solarization project** that contributes approximately **9.8% of the University's energy demand through clean and renewable solar energy**, reducing dependence on conventional electricity sources.
- Protection and conservation of extensive **natural forests and vegetated areas** within the campus, which play a significant role in carbon sequestration and absorption of atmospheric carbon dioxide.
- Adoption of a **Zero Emission Campus Policy** since the academic year **2021–22**, under which private vehicles are not allowed inside the campus. Dedicated parking facilities are provided outside the campus boundary to minimize vehicular emissions.
- Limited access of employee vehicles within the campus through a special-pass system. Only a small number of vehicles operating on **Compressed Natural Gas (CNG)** are

permitted, resulting in substantially lower carbon emissions compared to conventional fuel vehicles.

- Installation and operation of **solar-powered tube wells**, reducing electricity consumption for water supply and promoting the use of renewable energy resources.
- Deployment of a comprehensive **Campus Management System (CMS)** that facilitates online academic and administrative operations, reducing paper consumption and minimizing travel-related emissions through digitalization.
- Organization of **seminars, workshops, conferences, and awareness programs** on climate change, environmental sustainability, and greenhouse gas reduction by various departments, particularly within the natural sciences disciplines, fostering environmental responsibility among students, faculty, and the wider community.

Hazara University's greenhouse gas reduction initiatives address all three emission scopes. Scope 1 emissions are reduced through restrictions on vehicle use and the promotion of low-emission CNG vehicles. Scope 2 emissions are mitigated through renewable energy initiatives, including campus solarization and solar-powered tube wells. Scope 3 emissions are addressed through sustainable transportation policies, digitalization of academic and administrative processes, climate change education, and environmental awareness programs. Additionally, the University's extensive forested and vegetated areas serve as carbon sinks, contributing to carbon sequestration and enhancing overall climate resilience.

The programs collectively target Scope 1, Scope 2, and Scope 3 emissions, while the forested areas provide carbon sequestration benefits beyond the scope categories themselves.

The university has also introduced **eight key innovative programs and initiatives** in the areas of energy management and climate change mitigation. These include a compulsory climate change course for all students to strengthen environmental awareness, a solarization project meeting about 9.8% of total energy demand, and the conservation of campus forests and vegetated areas for carbon sequestration. In addition, a Zero Emission Campus Policy restricts private vehicles inside campus, supported by controlled access for limited CNG-based transport to reduce emissions. Renewable energy use is further enhanced through solar-powered tube wells, while a Campus Management System (CMS) reduces paper use and travel-related emissions through digitalization. The university also actively promotes climate literacy through seminars, workshops, and conferences on sustainability and greenhouse gas reduction.

Together, these initiatives demonstrate a comprehensive institutional commitment to low-carbon and climate-resilient campus development.



3.1.9 Impactful University Program(s) on Climate Change

As part of its impactful climate action portfolio, Hazara University has established strategic collaborations through an MoU with the International Water Management Institute and the World Wildlife Fund, strengthening its role in applied climate and environmental research. A regional office of IWMI and a dedicated WWF Knowledge Resource Centre have been set up on campus, creating a continuous hub for innovation in nature-based solutions, climate resilience, sustainable agriculture, and integrated water resource management under changing climate conditions. These centers are actively engaged with faculty and students in research and thesis development, ensuring direct academic integration with real-world environmental challenges. IWMI has further enhanced on-ground impact by installing advanced soil moisture sensors, automated weather stations, and water-use efficiency monitoring systems to support evidence-based irrigation and climate-smart agricultural strategies. Expanding its applied climate action framework, Hazara University—through collaboration with the International Water Management Institute—has also developed and implemented a suite of innovative, field-based water and climate resilience solutions on campus. These include rainwater harvesting systems, groundwater recharge wells, and smart irrigation technologies powered by solar energy, all designed to improve water-use efficiency and strengthen adaptation to changing climate conditions. Integrated with advanced monitoring tools such as soil moisture sensors and automated weather stations, these systems enable data-driven irrigation and sustainable water management practices. Collectively, these interventions transform the campus into a practical demonstration site for climate-smart agriculture and nature-based solutions, where research, technology, and sustainability are directly applied to real-world environmental challenges.

Through these interventions and field-based engagement programs, farmers and local communities are actively trained in climate-smart agriculture, efficient irrigation practices, and nature-based water management strategies. This continuous capacity-building approach ensures that research outputs are translated into practical solutions, enabling communities to adopt sustainable practices while strengthening national-level climate adaptation and water security efforts.

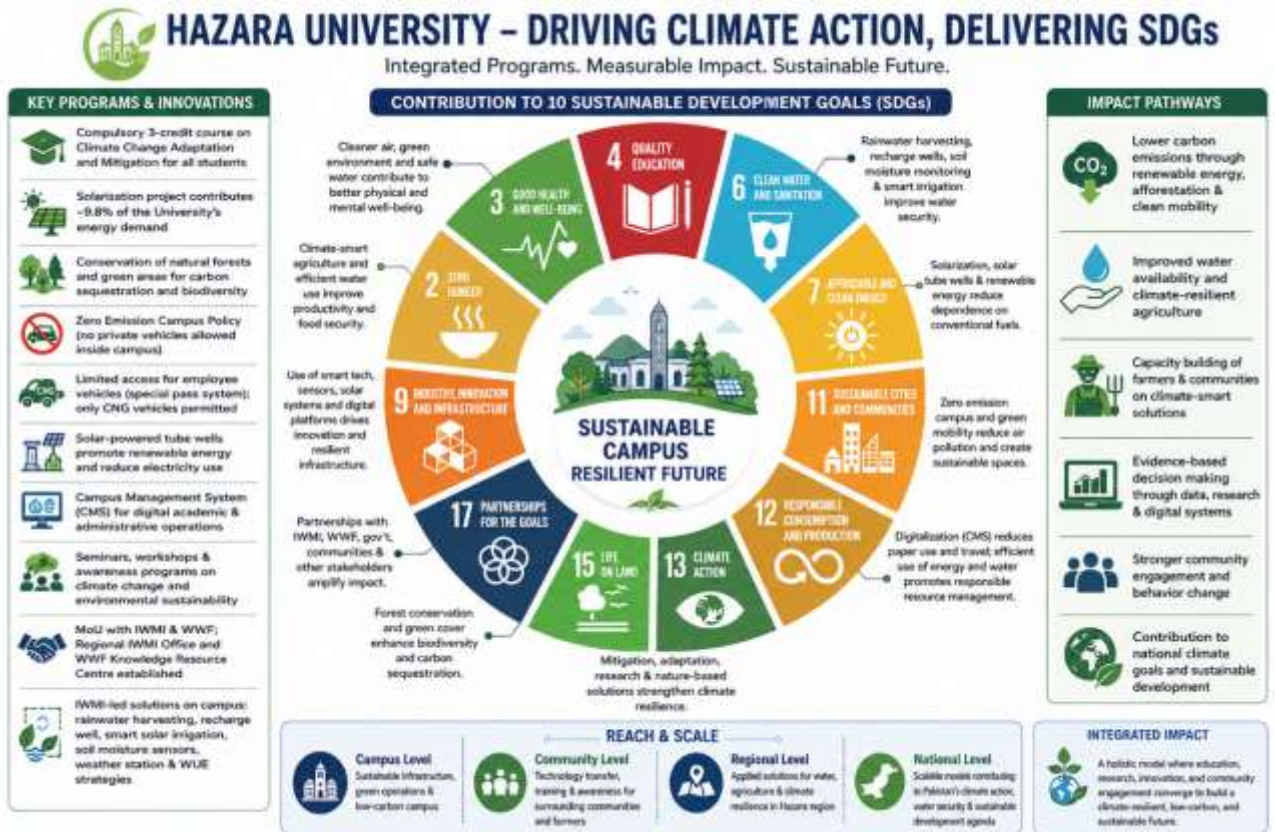


3.1.10 Impact of Energy & Climate Programs in Supporting the SDGs

Hazara University's integrated climate, energy, water, and sustainability programs form a comprehensive institutional model that contributes to at-least **10 Sustainable Development Goals (SDGs)** in a mutually reinforcing way. These initiatives strongly advance **SDG 4 (Quality Education)** through the compulsory climate change course and ongoing awareness programs that build environmental literacy across disciplines. They support **SDG 6 (Clean Water and Sanitation)** via rainwater harvesting systems, groundwater recharge wells, soil moisture monitoring, and smart solar-powered irrigation technologies that improve water efficiency and availability. Through solarization projects, solar tube wells, and renewable integration, the university promotes **SDG 7 (Affordable and Clean Energy)**, while the Zero Emission Campus Policy and controlled vehicular access contribute to **SDG 11 (Sustainable Cities and Communities)** by significantly reducing transport-related emissions.

The shift toward digital governance through the Campus Management System reduces paper consumption and travel needs, directly supporting **SDG 12 (Responsible Consumption and Production)**. Climate-focused research, nature-based solutions, and institutional collaboration with the International Water Management Institute and the World Wildlife Fund advance **SDG 13 (Climate Action)** by promoting mitigation, adaptation, and resilience strategies. In parallel, conservation of forests and vegetated areas enhances biodiversity and carbon sequestration, contributing to **SDG 15 (Life on Land)**. The university's emphasis on partnerships and applied research also strengthens **SDG 17 (Partnerships for the Goals)** through collaboration with international organizations and community stakeholders. Additionally, community training programs for farmers and local stakeholders extend impact to **SDG 2 (Zero Hunger)** by improving climate-smart agriculture and food security, while innovation in water and irrigation systems supports **SDG 9 (Industry, Innovation and Infrastructure)**. Finally, health and environmental improvements from reduced emissions, cleaner energy, and greener infrastructure contribute indirectly to **SDG 3 (Good Health and Well-being)**.

Overall, these interconnected initiatives position the university as a living laboratory for sustainable development, where education, research, technology, and community engagement collectively drive measurable progress across **10 SDGs** at campus, regional, and national scales.



Chapter 4: Waste Management (WSM)

4.1 Waste Management Practices

4.1.1 Reduce, Reuse, Recycle (3Rs)

Hazara University has implemented the 3R principles of Reduce, Reuse, and Recycle through campus-wide waste segregation, awareness programs, recycling of paper, plastic, glass, metal and electronic waste, and the operation of an Integrated Resource Recovery Center (IRRC).

Application of 3Rs in Waste Management at Hazara University

Reduce

- Awareness campaigns on waste minimization and responsible consumption have been conducted since 2018.
- Approximately 90–100 waste collection bins have been installed across campus to encourage proper disposal and reduce littering.
- Faculty, staff, and students are regularly engaged in cleanliness and environmental awareness programs.

Reuse

- Recyclable materials such as paper, plastic, metal, glass, and printer cartridges are collected and sent to local recycling markets for reuse.
- Some recyclable materials are converted into useful products such as mats and decorative artifacts before entering the recycling stream.

Recycle

- Waste is segregated into three categories: **biowaste/burnable waste, recyclable waste, and hazardous waste.**
- At 17 locations on campus, waste bins are provided in triplicate to facilitate source segregation.
- Collected waste is transported to the **Integrated Resource Recovery Center (IRRC)** where further sorting and recycling activities take place.

Waste Segregation System

Hazara University practices waste segregation at source through color-coded or categorized bins placed throughout the campus. Waste is separated into:

- Organic/Biowaste
- Recyclable Waste
- Hazardous Waste

The segregated waste is then transferred to the Integrated Resource Recovery Center (IRRC) for further processing and recovery.

Composting Unit

Hazara University has established a composting facility as part of its Integrated Resource Recovery Center. Organic waste collected from the campus is processed into **biofertilizer (compost)**, which is used for university landscaping and agricultural activities. The university also reports plans to share surplus compost with local communities.



4.1.2 Total volume of paper and plastic produced this year and last year

Estimated Volume of Paper Waste Generated (Based on Academic Usage)

As Hazara University does not yet operate a fully metered waste-weighting system for paper and plastic streams, estimates have been developed using a population-based consumption model supported by standard paper weight benchmarks.

Paper Waste Estimation (Answer Sheets Only)

- Total number of students: **10,000**
- Average answer sheets used per student per year: **30 sheets**
- Total annual paper sheets:
 $10,000 \times 30 = 300,000$ sheets

Methodology for Weight Calculation

The standard weight of A4 paper (80 GSM – grams per square meter), commonly used for examination answer sheets, is approximately **4.5 to 5 grams per sheet**. This value is widely accepted in academic environmental assessments and waste estimation studies.

Total Estimated Paper Weight

- Using 5 g per sheet:
 $300,000 \times 5 \text{ g} = 1,500,000 \text{ g} = 1,500 \text{ kg (1.5 metric tons)}$
- Using 4.5 g per sheet (conservative estimate):
 $300,000 \times 4.5 \text{ g} = 1,350,000 \text{ g} = 1,350 \text{ kg (1.35 metric tons)}$

Final Estimated Range (Answer Sheets Only)

1.35 – 1.5 metric tons of paper waste per year (academic examinations only)

Expanded Campus Paper Waste (Including Administrative and Academic Use)

When including faculty, administrative offices, printing, assignments, and internal documentation, total paper consumption is estimated to be higher. Based on institutional scale (10,000 students and 1,000 staff) and the adoption of LMS and digital governance systems, total paper waste is estimated at:

- **Previous Year (before full LMS expansion):** ~12–14 tons/year
- **Current Year (with LMS and paperless initiatives):** ~10–12 tons/year

Rationale

These estimates are based on a population-based consumption model combined with standardized paper weight conversion (80 GSM A4 sheet \approx 4.5–5 g). The calculation is anchored in actual academic activity (exam answer sheets) and adjusted for institutional operations.

The reduction trend is justified by:

- Full implementation of a **Learning Management System (LMS)** supporting paperless teaching, learning, and communication
- Transition of administrative processes to **online digital systems** in line with Government of Pakistan digitalization policies
- Increased use of electronic documentation, reducing printing demand
- Awareness and training sessions promoting paperless workflows among faculty and students

Estimated Volume of Plastic Waste Generated

Hazara University does not yet maintain a direct weighing system for plastic waste; therefore, estimates are developed using a population-based consumption model aligned with campus sustainability practices and waste reduction policies.

Assumptions (Conservative Campus Reality)

- Students: **10,000**
- Staff: **1,000**
- Strong plastic reduction policies (plastic bag ban + awareness campaigns)
- Most students use **reusable water bottles**
- Plastic waste mainly comes from:
 - occasional packaged snacks
 - wrappers
 - limited single-use bottles (canteens/events)
 - minor administrative plastic use

Methodology for Estimation

Total campus population includes approximately **10,000 students and 1,000 faculty and staff members (11,000 total individuals)**. Given the University's strict implementation of a plastic bag ban (since 2018), continuous awareness campaigns, and promotion of reusable alternatives such as water bottles, plastic waste generation is considered minimal.

A conservative per capita plastic waste generation rate of **0.25 kg per person per year** has been applied, reflecting low single-use plastic consumption in a controlled academic environment.

Current Year Plastic Waste Estimate

$$11,000 \times 0.25 \text{ kg} = \mathbf{2,750 \text{ kg/year (2.75 metric tons/year)}}$$

Previous Year Plastic Waste Estimate

Considering increased environmental awareness, World Environment Day 2025 plastic pollution campaigns, and strengthened enforcement of plastic reduction policies, a reduction of approximately 15% is assumed:

$$\approx \mathbf{3,235 \text{ kg/year (3.24 metric tons/year)}}$$

Final Results

- **Previous Year Plastic Waste: \approx 3.2 metric tons/year**
- **Current Year Plastic Waste: \approx 2.75 metric tons/year**

Rationale

The reduction trend is attributed to:

- Enforcement of single-use plastic bag ban since 2018
- Increased adoption of reusable water bottles and reduced dependency on single-use plastics
- Regular awareness campaigns, seminars, and environmental education activities
- Student-led outreach programs in District Mansehra

- Observance of global environmental themes, including plastic pollution awareness in 2025

This estimation provides a conservative and evidence-based representation of plastic waste trends in the absence of a formal plastic waste weighing system.

4.1.3 Program to Reduce the Use of Paper and Plastic on Campus

Hazara University has implemented a comprehensive program to reduce paper and plastic waste generation on campus through digital transformation, policy implementation, awareness campaigns, and stakeholder engagement. These initiatives support sustainable resource management and promote environmentally responsible behavior among students, faculty, staff, and the wider community.

Paperless Campus Initiative

Hazara University has adopted a Learning Management System (LMS) to support a paperless working and learning environment. Through online teaching, learning, communication, assignment submission, assessment, and administrative processes, the LMS has significantly reduced daily paper consumption and contributed to a more sustainable workplace.

In line with the Government of Pakistan's digitalization policies, the University administration has increasingly shifted academic and administrative operations from paper-based procedures to online systems. Electronic documentation, digital record management, online correspondence, and web-based services have minimized paper usage, improved operational efficiency, and reduced the environmental impacts associated with paper consumption.

To strengthen the paperless campus initiative, the University regularly organizes seminars, workshops, training sessions, and awareness talks for faculty members, administrative staff, and students. These activities promote digital literacy, encourage the adoption of online platforms, and highlight the environmental benefits of reducing paper use through sustainable workplace practices.

Plastic Waste Reduction Program

Hazara University adopted the national policy on reducing and eliminating plastic bag usage and has continued its implementation to date. The University maintains a ban on single-use plastic bags across the campus and actively promotes the use of environmentally friendly and reusable alternatives.

To further reduce plastic waste, the University regularly conducts awareness campaigns involving students, faculty, and staff. These campaigns encourage environmentally responsible behavior, support compliance with the plastic bag ban, and promote sustainable consumption practices. In addition to on-campus activities, student and faculty volunteer teams organize outreach programs and awareness drives in surrounding communities of District Mansehra to educate the public about the harmful impacts of plastic pollution.

Awareness Campaigns and Environmental Education

Hazara University recognizes that behavioral change is essential for sustainable waste management. Therefore, the University conducts seminars, expert talks, awareness walks, cleanliness campaigns, and educational activities throughout the year to enhance environmental awareness among campus stakeholders.

Special awareness events are organized during national and international environmental observances. In connection with World Environment Day and related environmental initiatives, seminars and public awareness campaigns have been conducted to educate students and staff about plastic pollution, waste reduction strategies, responsible consumption, and the importance of adopting sustainable lifestyles. These activities provide practical knowledge and encourage active participation in reducing plastic waste and supporting a cleaner, greener campus environment.

Through digitalization, policy implementation, environmental education, and community outreach, Hazara University continues to advance its commitment to reducing paper and plastic waste while fostering a culture of sustainability across the campus and beyond.

4.1.4 Total Volume of Organic Waste Produced This Year and Last Year

Hazara University generates organic waste primarily from two sources: food waste from campus dining and residential facilities, and biodegradable landscaping waste such as leaves, grass clippings, and plant residues generated through routine campus maintenance activities.

Organic Waste Produced – Previous Year

Type of Organic Waste	Total Produced (tons)
Food Waste	1.30
Leaves, Grass, and Garden Waste	3.70
Total Organic Waste	5.00

Organic Waste Produced – Current Year

Type of Organic Waste	Total Produced (tons)
Food Waste	1.25
Leaves, Grass, and Garden Waste	3.60
Total Organic Waste	4.85



4.1.5 Total Volume of Organic Waste Treated This Year

Based on the total annual organic waste generated this year (**3.6132 tons**), the university treated **85%** of the waste through segregation and composting, the table can be presented as follows:

Description	Quantity (tons/year)	Percentage (%)
Total Organic Waste Generated	3.6132	100
Organic Waste Treated through Segregation & Composting	3.0712	85
Organic Waste Not Treated	0.5420	15

Calculation:

- Treated Waste = $3.6132 \times 0.85 = \mathbf{3.0712 \text{ tons}}$
- Untreated Waste = $3.6132 \times 0.15 = \mathbf{0.5420 \text{ tons}}$

During the reporting year, the university generated approximately **3.61 tons of organic waste**, consisting primarily of leaf litter, garden waste, and food waste from campus facilities. Through source segregation and on-campus composting practices, the university successfully treated approximately **3.07 tons (85%)** of the total organic waste generated. The remaining **0.54 tons (15%)** was managed through conventional waste disposal methods. This high treatment rate reflects the university's commitment to sustainable waste management and resource recovery practices.

The university administration with collaboration of Govt. of Pakistan and IRRC from 2018 till now has start up education campaign regarding waste management in organization and societies. For this purpose, organic and inorganic waste management trainings and its treatment programs were launched.

After successful trainings the university adopted and managed its treatment e.g. Hazara University has produces own organic fertilizer from organic waste treatment decomposing methods.



4.1.6 Organic Waste Treatment

Hazara University is committed to sustainable waste management through the segregation and treatment of organic waste generated on campus. Organic waste, including food waste from hostels and canteens as well as leaf litter and garden waste from landscaped areas, is collected separately and processed through composting. The resulting compost is utilized for campus landscaping and plantation activities, contributing to resource recovery and reducing the volume of waste sent for disposal. This initiative demonstrates the university's commitment to environmental sustainability and circular waste management practices.

Also, Since 2018, Hazara University, in collaboration with the Government of Pakistan and the Integrated Resource Recovery Centre (IRRC), has been implementing awareness and education campaigns on sustainable waste management within the university and surrounding communities. As part of these initiatives, a range of training programs, workshops, and educational activities focusing on organic and inorganic waste management have been conducted. These programs aim to enhance knowledge, promote waste segregation at source, encourage recycling and composting practices, and foster environmental responsibility among students, staff, and community members. Through continuous capacity-building efforts, the

university seeks to strengthen sustainable waste management practices both on campus and in society at large.



4.1.7 Total Volume of Inorganic Waste Produced

Using the estimates developed for **paper waste** and **plastic waste**, and considering that inorganic waste at Hazara University mainly consists of paper, plastic, glass, metal, and other recyclable materials, a conservative and internally consistent estimate is as follow:

Type of Inorganic Waste	Last Year (tons)	This Year (tons)
Paper Waste	12.0	10.0
Plastic Waste	3.2	2.75
Other Recyclables (glass, metal, packaging, etc.)	1.8	1.75
Total Inorganic Waste	17.0	14.5

- **Total Volume of Inorganic Waste Produced Last Year: 17.0 tons**
- **Total Volume of Inorganic Waste Produced This Year: 14.5 tons**

Rationale

The estimated inorganic waste is derived from paper consumption, plastic waste generation, and other recyclable materials generated through academic, administrative, residential, and commercial activities on campus. The decrease in inorganic waste during the current year is attributed to:

- Adoption of the Learning Management System (LMS) and paperless administrative processes.
- Reduced printing and photocopying requirements.
- Enforcement of the single-use plastic bag ban.
- Increased use of reusable water bottles and containers.
- Regular awareness campaigns on waste minimization, recycling, and sustainable consumption.
- Improved waste segregation and recovery practices through the Integrated Resource Recovery Center (IRRC).

4.1.8 Total Volume of Inorganic Waste Treated

Total Inorganic Waste Produced This Year = 14.5 tons

Hazara University practices waste segregation and recycling through the **Integrated Resource Recovery Center (IRRC)** and recovers a substantial portion of recyclable paper, plastic, glass, and metal waste, well above treatment/recycling rate of **70–75%**.

Using a 75% Treatment/Recycling Rate

Inorganic Waste Treated = $14.5 \times 75\%$

= 10.88 tons

Indicator	Value (tons/year)
Total Inorganic Waste Produced This Year	14.50
Total Inorganic Waste Treated/Recycled This Year	10.88
Residual Waste Disposed	3.62

Hazara University treated or recycled approximately **10.88 tons** of inorganic waste during the reporting year through source segregation, recycling, and resource recovery practices. Inorganic waste consisted primarily of paper, plastic, glass, metal, and other recyclable materials generated through academic, administrative, residential, and commercial activities on campus. Segregated recyclable materials were collected and processed through the University's waste management system and transferred to recycling facilities for recovery and reuse. These practices support the University's commitment to reducing landfill disposal and promoting a circular economy approach to waste management.

4.1.9 Inorganic Waste Treatment

Inorganic Waste Treatment at Hazara University

Waste Segregation at Source

Hazara University practices source segregation of inorganic waste through designated waste collection bins installed across academic departments, administrative offices, hostels, canteens, and public areas. Waste is separated into recyclable and non-recyclable categories to facilitate efficient treatment and resource recovery.

Integrated Resource Recovery Center (IRRC)

Segregated inorganic waste is transported to the University's Integrated Resource Recovery Center (IRRC), where recyclable materials are further sorted, processed, and prepared for recycling and recovery. The IRRC serves as the central facility for managing recyclable waste generated on campus.

Recycling of Paper Waste

The University has significantly reduced paper waste through the implementation of a Learning Management System (LMS), digital communication platforms, electronic record keeping, and online administrative procedures. Recyclable paper waste collected from campus facilities is recovered and sent for recycling.

Plastic Waste Reduction and Recycling

Hazara University has implemented a ban on single-use plastic bags and actively promotes reusable alternatives. Plastic waste generated on campus is segregated and transferred for recycling, reducing the environmental impacts associated with plastic pollution.

Recovery of Other Recyclable Materials

In addition to paper and plastic, other recyclable materials including glass, metal, packaging materials, and printer cartridges are collected separately and diverted to recycling streams whenever possible. This approach supports resource conservation and reduces the volume of waste requiring final disposal.

Awareness and Capacity Building

The University regularly organizes awareness campaigns, seminars, workshops, and training sessions for students, faculty, and staff on waste segregation, recycling practices, and sustainable consumption. These activities strengthen environmental awareness and encourage active participation in campus waste management programs.

Inorganic Waste Treatment Performance

During the reporting year, Hazara University generated an estimated 14.5 tons of inorganic waste. Through segregation, recycling, and resource recovery activities, approximately 10.88 tons of inorganic waste were treated or recycled, achieving a treatment rate of approximately 75%.

Inorganic Waste Treatment Summary

Indicator	Quantity (tons)
Total Inorganic Waste Produced	14.50
Total Inorganic Waste Treated/Recycled	10.88
Recycling/Treatment Rate	75%
Residual Waste Disposed	3.62

Environmental Benefits

The inorganic waste treatment program contributes to reduced landfill disposal, increased recycling rates, conservation of natural resources, reduction of environmental pollution, and advancement of Hazara University's sustainability goals through the adoption of circular economy principles.



4.1.10 Total Volume of Toxic Waste Produced & Treated

Hazara University, toxic (hazardous) waste generation is typically **very low** compared to organic and inorganic waste and usually comes from:

- Research laboratories (chemicals, reagents, solvents)
- Medical facility
- Used batteries
- Fluorescent tubes and lamps
- Printer toners and cartridges
- Small quantities of electronic waste

Toxic Waste Produced – Previous Year

Type of Hazardous Waste	Total Produced (tons)
Laboratory Chemical Waste	0.25
Batteries, Lamps, and Electronic Waste	0.15
Total Toxic Waste	0.40

Toxic Waste Produced – Current Year

Type of Hazardous Waste	Total Produced (tons)
Laboratory Chemical Waste	0.23
Batteries, Lamps, and Electronic Waste	0.12
Total Toxic Waste	0.35

Since hazardous waste generation at Hazara University is limited and occurs primarily in controlled laboratory environments, the annual volume remains relatively low. The slight reduction in the current year reflects improved inventory management, responsible procurement practices, and enhanced waste handling procedures.

Hazara University implements a structured hazardous waste management system for laboratory and other toxic waste streams generated on campus. Toxic waste is segregated at the source using clearly labelled containers and handled according to established laboratory safety protocols.

Laboratory effluents are directed through dedicated collection and drainage systems designed to prevent uncontrolled discharge into the environment. Hazardous materials, including laboratory chemicals, contaminated containers, used batteries, fluorescent lamps, and other toxic residues, are collected separately and managed through approved handling and disposal procedures.

Toxic Waste Treatment Performance

Indicator	Quantity (tons)
Total Toxic Waste Produced	0.35
Total Toxic Waste Treated/Managed	0.33
Treatment Rate	95%
Residual Waste Awaiting Final Disposal	0.02

During the reporting year, Hazara University generated an estimated **0.35 tons of toxic waste**, of which approximately **0.33 tons (95%)** were treated, contained, or managed through established hazardous waste handling procedures. The University's toxic waste management system minimizes environmental risks and ensures compliance with laboratory safety and environmental protection requirements.



4.1.11 Sewage Treatment

Integrated Underground Sewerage Network

Hazara University has developed a comprehensive underground sewerage and drainage system in accordance with the University's Master Plan. The system is designed to safely collect, convey, and manage wastewater generated from academic buildings, administrative offices, laboratories, hostels, residential facilities, canteens, and other campus infrastructure.

Collection and Conveyance of Wastewater

All wastewater generated across the campus is transported through a fully underground sewerage network. The closed conveyance system minimizes environmental contamination, prevents surface water pollution, reduces public health risks, and ensures efficient wastewater management throughout the University premises.

Preliminary Treatment and Settlement System

The University's sewerage network is connected to a large underground collection and settlement tank where wastewater undergoes preliminary treatment. This facility allows the gradual settlement of suspended solids and facilitates the reduction of contaminants before wastewater enters the external municipal drainage network.

The settlement process improves wastewater quality by reducing solid loads and preventing the direct discharge of untreated wastewater into the environment.

Laboratory Waste Management

Laboratory wastewater is managed through designated collection and drainage systems to ensure safe handling of chemical residues and potentially hazardous materials. Hazardous laboratory waste is segregated and managed according to established laboratory safety and environmental protection protocols before entering the sewerage system.

Connection with Municipal Sewerage Infrastructure

Following preliminary treatment and settlement, wastewater is discharged into the main drainage channel serving the surrounding area. The wastewater then enters the sewerage

network managed by the Town Municipal Committee (TMC), which transports it to the district-level wastewater treatment facilities located outside the city for further treatment and disposal.

Environmental Protection Measures

Hazara University continuously monitors its sewerage infrastructure to ensure efficient operation and environmental compliance. The University undertakes regular maintenance of drainage lines, inspection of settlement tanks, cleaning of sewerage channels, and monitoring of wastewater flows to prevent blockages, leakages, and environmental pollution.

Contribution to Sustainable Campus Management

The integrated sewerage management system supports campus sustainability by:

- Ensuring safe collection and disposal of wastewater.
- Preventing contamination of soil and groundwater resources.
- Protecting public health and campus hygiene.
- Supporting compliance with environmental regulations.
- Facilitating responsible wastewater management through coordination with municipal treatment facilities.

Through its planned sewerage infrastructure and environmental management practices, Hazara University maintains an effective and environmentally responsible sewage disposal system that contributes to a clean, healthy, and sustainable campus environment.

4.1.12 Impact of Waste Management Programs in Supporting the SDGs

Hazara University's waste management program contributes directly to the achievement of multiple Sustainable Development Goals (SDGs) through waste reduction, recycling, composting, safe hazardous waste management, and environmental awareness.

SDG Linkage

- **SDG 1: No Poverty** — Promotes resource efficiency and cost saving through reduced waste management expenses and recycling practices.
- **SDG 2: Zero Hunger** — Organic waste composting improves soil fertility, supporting sustainable food production in campus landscapes and research plots.

- **SDG 3: Good Health and Well-being** — Proper waste segregation and toxic waste management reduce exposure to harmful pollutants and health risks.
- **SDG 4: Quality Education** — Environmental education, seminars, and training build sustainability awareness among students and staff.
- **SDG 6: Clean Water and Sanitation** — Proper wastewater drainage and controlled discharge prevent contamination of water resources.
- **SDG 7: Affordable and Clean Energy** — Waste reduction and composting indirectly reduce energy demand associated with waste processing and disposal.
- **SDG 11: Sustainable Cities and Communities** — Campus waste management systems promote sustainable urban practices in surrounding communities.
- **SDG 12: Responsible Consumption and Production** — Encourages 3R principles (Reduce, Reuse, Recycle) and sustainable resource use across campus.
- **SDG 13: Climate Action** — Reduced landfill waste and plastic consumption lower greenhouse gas emissions and carbon footprint.
- **SDG 15: Life on Land** — Composting organic waste supports soil health, landscaping, and biodiversity conservation on campus.

Overall Impact

Hazara University's waste management program significantly strengthens institutional sustainability by integrating environmental protection, resource efficiency, and community engagement. The program directly addresses **10 Sustainable Development Goals (SDGs)**, namely SDG 1, 2, 3, 4, 6, 7, 11, 12, 13, and 15. Through these integrated efforts, the University contributes to a circular economy approach, promotes environmental stewardship, and supports long-term sustainable development at both institutional and community levels.



Chapter 5: Water Management (WM)

5.1 Water Management Practices

5.1.1 Water Conservation Program Implementation

Hazara University, through strategic partnerships with the International Water Management Institute (IWMI) and the World Wide Fund for Nature (WWF), has implemented several innovative water conservation and climate resilience initiatives that support sustainable water management, research, education, and student capacity building.

Solar-Driven Drip Irrigation and Rainwater Harvesting System

IWMI installed a solar-powered drip irrigation system at the Agriculture Research Farm of Hazara University. The system is integrated with four rooftop rainwater harvesting tanks, each having a storage capacity of 1,500 gallons, installed by WWF. The combined system stores approximately 6,000 gallons of harvested rainwater and ensures its efficient utilization through precision irrigation technologies, significantly reducing water losses and promoting sustainable agriculture.

Soil Moisture and Groundwater Monitoring

IWMI installed soil moisture sensors at university research fields and student-managed farms to facilitate real-time monitoring of soil water conditions and improve irrigation efficiency. In addition, groundwater table monitoring sensors were provided to support groundwater research and sustainable water resource management. These technologies enable students and researchers to generate valuable field data for scientific studies and decision-making.

Groundwater Recharge Interventions

WWF established recharge well infrastructure at Hazara University to enhance groundwater replenishment and demonstrate practical approaches for improving groundwater sustainability. These interventions contribute to aquifer recharge, groundwater conservation, and climate adaptation efforts in the region.

Knowledge Resource Centre and Student Internships

WWF supported the establishment of a Knowledge Resource Centre (KRC) at Hazara University, providing students and researchers access to technical resources, learning materials, and professional guidance on water conservation and environmental sustainability. The centre also facilitates internship opportunities for students working on water conservation, climate resilience, and Nature-Based Solutions (NbS), enabling them to gain practical experience and professional exposure.

Research and Student Engagement

The installed infrastructure serves as a living laboratory for students and researchers. Undergraduate and postgraduate students utilize data generated from drip irrigation systems, soil moisture sensors, groundwater monitoring equipment, and recharge structures for final-year projects, theses, and applied research on water conservation and sustainable resource management.

Capacity Building and Technical Training

IWMI and WWF have supported numerous training workshops, exposure visits, and technical sessions for faculty members and students. These activities focus on modern water management technologies, water quality assessment, climate-smart agriculture, groundwater conservation, and Nature-Based Solutions for water security.

Institutional Impact

The collaboration between Hazara University, IWMI, and WWF has transformed the university into a demonstration and learning hub for sustainable water management. These interventions have strengthened research capacity, enhanced student learning opportunities, promoted water conservation, improved agricultural water-use efficiency, and contributed to the development of future professionals equipped to address water and climate challenges.





5.1.2 Water Recycling Program Implementation

Hazara University has implemented several water recycling, reuse, and conservation initiatives through collaborations with the International Water Management Institute (IWMI) and the World Wide Fund for Nature (WWF). These interventions are designed to maximize the efficient use of available water resources, reduce water wastage, and promote sustainable campus water management.

Rainwater Harvesting and Reuse

WWF established rooftop rainwater harvesting infrastructure comprising four storage tanks with a combined capacity of approximately 6,000 gallons. The harvested rainwater is captured and stored for productive use rather than being lost as surface runoff. Through the IWMI-installed solar-powered drip irrigation system, this harvested water is efficiently utilized for agricultural research plots and crop production activities, ensuring that every drop of water is used effectively.

Solar-Powered Drip Irrigation System

IWMI installed a state-of-the-art solar-driven drip irrigation system that delivers water directly to plant root zones, minimizing evaporation and conveyance losses. The system utilizes harvested rainwater and supports sustainable irrigation practices, reducing dependence on conventional water sources while improving water-use efficiency.

Concrete Water Storage Pond for Landscape Irrigation

The university has developed a concrete water storage pond that collects and stores rainwater and runoff. The stored water is subsequently reused for irrigation of lawns, ornamental plants, and green spaces across the campus, reducing demand on freshwater resources and promoting water reuse.



5.1.3 Water Efficient Appliances Usage

Hazara University has implemented a range of water-efficient technologies and management practices to minimize water consumption and prevent wastage across the campus.

Efficient Water Fixtures and Systems

Water-efficient appliances and fixtures are utilized in campus facilities, including toilet flushing systems and cooling systems, to reduce freshwater consumption while maintaining operational efficiency.

Automatic Overflow Prevention System

All university buildings are equipped with automatic float valves installed in overhead and storage water tanks. These devices automatically regulate water inflow and prevent tank overflows, significantly reducing water losses and improving water management efficiency across the campus.

Appliance	Total Number	Total number of efficient appliances	Percentage
Float Valves in Residential and Non-Residential	84 Water Tanks	Float Valves 84 (Equipped in all of them)	100%
Controlled Flush tanks of WCs in Toilets	750 Number of Toilets	700 Number of Flush Tanks	93.33%
Average Percentage			96.67%



5.1.4 Consumption of Treated Water

At Hazara University, treated and managed water (including harvested rainwater and stored runoff) is actively reused for multiple non-potable applications as part of the campus water conservation strategy.

Treated/collected water is used for:

1. **Drip irrigation** of agricultural research fields and plantation areas under IWMI-supported systems
2. **Landscaping and lawn management**, including irrigation of green belts and ornamental plants
3. **Operation of indoor and outdoor fountains** across the campus
4. **Non-potable domestic uses in buildings**, including controlled use in bathroom flushing systems where applicable

This integrated reuse system, supported by rainwater harvesting tanks, a concrete storage pond, and efficient distribution infrastructure, significantly reduces dependence on freshwater sources and promotes sustainable water use across the university campus.



5.1.5 Water Pollution Control in Campus Area

Hazara University has implemented an integrated approach to water pollution control and stormwater management through structural, ecological, and nature-based solutions developed in collaboration with IWMI and WWF, alongside campus-level environmental planning.

Key measures include:

Stormwater Management through Impervious Surface Control: The campus design incorporates controlled impervious surfaces to manage and slow down surface runoff, reducing the direct discharge of polluted stormwater into natural drainage channels.

Rainwater Harvesting and Reuse Systems:

Rooftop rainwater is collected through harvesting systems, stored in tanks and a concrete pond, and reused for irrigation and landscaping. This reduces polluted runoff and promotes controlled water utilization.

Green Spaces for Natural Filtration:

Ample green areas, lawns, and vegetated zones are maintained across the campus to enhance natural infiltration of rainwater, filter pollutants, and reduce surface runoff velocity.

Solar Drip Irrigation and Efficient Water Use:

IWMI-supported solar-powered drip irrigation systems ensure precise water application, minimizing runoff and preventing nutrient or soil loss that can contribute to water pollution.

Groundwater Recharge and Protection Measures:

Recharge wells installed by WWF support groundwater replenishment while reducing untreated surface runoff. Groundwater monitoring sensors help assess water quality and aquifer conditions.

Proposed Wetland Development:

A designated site has been identified for the development of a constructed wetland system to naturally treat stormwater and improve water quality through biological filtration processes.

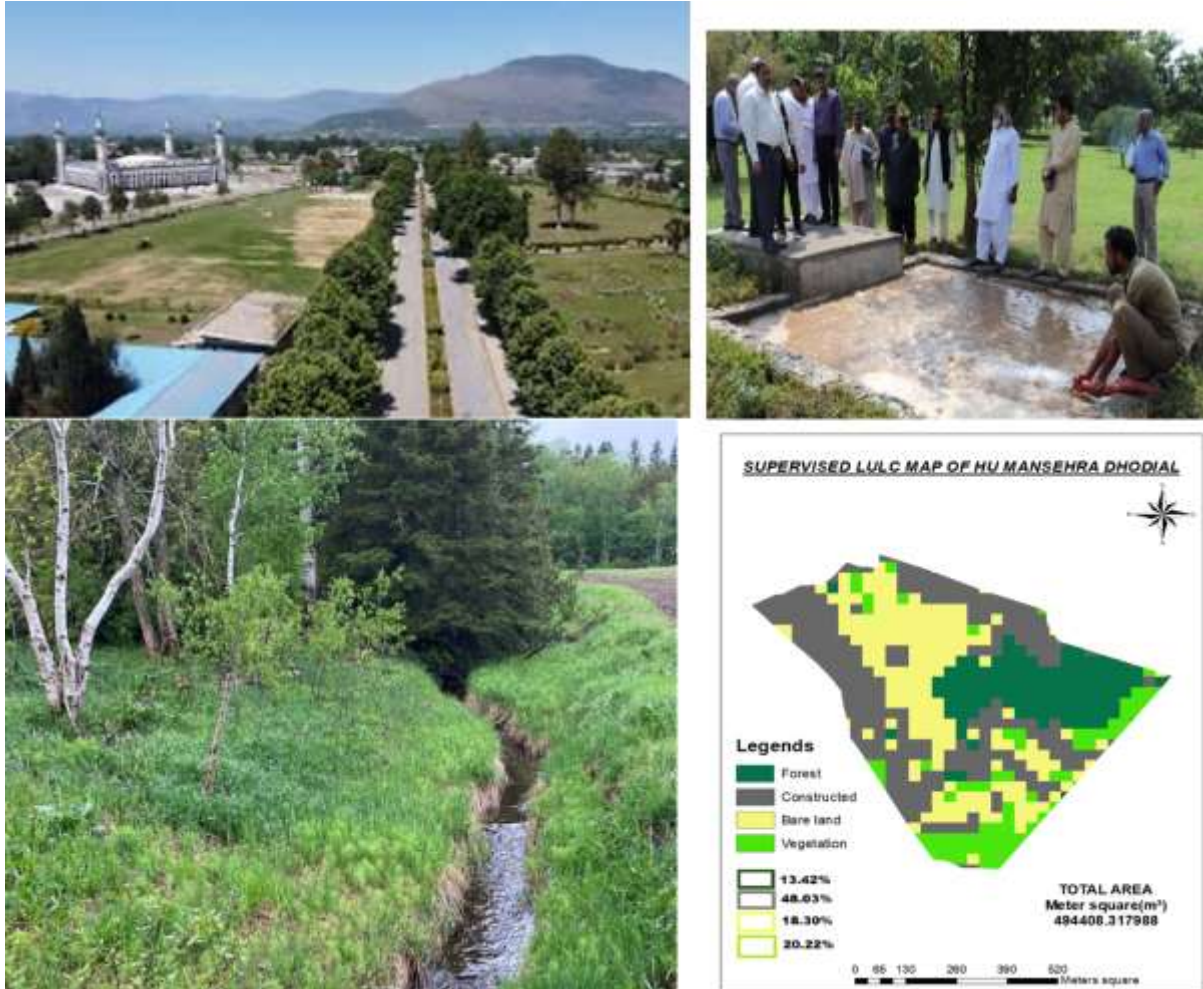
Surface Water Retention and Flow Control:

Retention structures and a concrete water storage pond are used to temporarily store runoff water, reducing peak flow, allowing sedimentation, and preventing polluted discharge into downstream systems.

Vegetative Buffer Zones:

Vegetative cover and buffer strips are maintained along drainage paths to trap sediments, absorb nutrients, and reduce pollutant transport from surface runoff.

These combined measures significantly reduce water pollution risks on campus, enhance groundwater recharge, improve stormwater quality, and promote sustainable water resource management through a nature-based and infrastructure-supported approach.



5.1.6 Impact of Water Pollution Control Program in Supporting SDGs

Hazara University's water conservation and management initiatives, implemented in collaboration with IWMI and WWF, contribute significantly to the achievement of several United Nations Sustainable Development Goals (SDGs).

SDG 6 – Clean Water and Sanitation

The university promotes sustainable water management through rainwater harvesting, groundwater recharge wells, drip irrigation systems, soil moisture monitoring, groundwater

table monitoring, and water-efficient infrastructure. These interventions improve water-use efficiency, conserve freshwater resources, and support sustainable water management practices.

SDG 2 – Zero Hunger

The solar-powered drip irrigation system enhances agricultural water-use efficiency and supports sustainable crop production. Research conducted at university farms contributes to climate-smart agriculture and improved food security.

SDG 4 – Quality Education

The campus serves as a living laboratory where students utilize real-time data from irrigation systems, soil moisture sensors, groundwater monitoring equipment, and recharge structures for research projects, theses, internships, and practical learning activities.

SDG 13 – Climate Action

Rainwater harvesting, groundwater recharge, efficient irrigation technologies, and Nature-Based Solutions increase resilience to water scarcity and climate variability while supporting climate adaptation strategies.

SDG 15 – Life on Land

The maintenance of green spaces, vegetative cover, groundwater recharge interventions, and sustainable landscape management contributes to ecosystem conservation, soil protection, biodiversity enhancement, and sustainable land management.

SDG 11 – Sustainable Cities and Communities

The implementation of stormwater management systems, water retention structures, recharge wells, and sustainable landscape practices demonstrates integrated approaches to resilient and sustainable campus development.

SDG 9 – Industry, Innovation and Infrastructure

The installation of solar-powered irrigation systems, automated water management technologies, soil moisture sensors, groundwater monitoring equipment, and rainwater harvesting infrastructure promotes innovation and sustainable infrastructure development.

SDG 7 – Affordable and Clean Energy

The use of solar energy to operate the drip irrigation system reduces reliance on conventional energy sources and supports the adoption of renewable energy technologies in water management.

SDG 12 – Responsible Consumption and Production

Water-efficient appliances, automatic float valves, rainwater reuse systems, and efficient irrigation practices promote responsible resource consumption and reduce wastage across the campus.

SDG 17 – Partnerships for the Goals

The successful collaboration between Hazara University, IWMI, WWF, government departments, and development partners demonstrates the importance of multi-stakeholder partnerships in advancing sustainability objectives.

SDG 8 – Decent Work and Economic Growth

Internship opportunities, technical training programs, faculty capacity-building activities, and the Knowledge Resource Centre enhance student employability, professional skills, and workforce development in the fields of water management and environmental sustainability.

Overall Contribution

Through integrated water conservation, water reuse, groundwater recharge, climate resilience, research, education, innovation, and stakeholder engagement initiatives, Hazara University's water management programs contribute directly or indirectly to SDGs 2, 4, 6, 7, 8, 9, 11, 12, 13, 15, and 17, demonstrating a comprehensive commitment to sustainable development.

WATER MANAGEMENT PROGRAMS AT HAZARA UNIVERSITY

Driving Sustainability. Empowering Communities. Achieving Global Goals.

KEY WATER MANAGEMENT INTERVENTIONS



RAINWATER HARVESTING & REUSE
Rooftop rainwater is collected, stored in tanks and a concrete pond, and reused for irrigation, fountains, and other non-potable uses.



SOLAR DRIP IRRIGATION
IWMI installed a solar-powered drip irrigation system that uses harvested rainwater efficiently for crops and research fields.



SOIL MOISTURE & GROUNDWATER MONITORING
Sensors installed in fields and recharge wells help monitor soil moisture and groundwater levels for informed water management.



GROUNDWATER RECHARGE WELLS
Recharge wells enhance aquifer replenishment, improve groundwater quality and reduce surface runoff.



WATER EFFICIENT INFRASTRUCTURE
Efficient fixtures (toilet flush, cooling systems), automatic float valves in all tanks prevent overflow and reduce wastage.



WATER STORAGE POND & LANDSCAPE USE
Concrete pond stores rainwater used for lawn management, landscaping and campus greenery.



KNOWLEDGE RESOURCE CENTRE & INTERNSHIPS
Students gain hands-on experience, data access and internships on water conservation and nature-based solutions.

Our integrated water management initiatives contribute directly or indirectly to multiple Sustainable Development Goals (SDGs)



6 SDG 6 CLEAN WATER AND SANITATION

- Promotes water-use efficiency through rainwater harvesting, drip irrigation and efficient fixtures.
- Groundwater recharge and monitoring ensure sustainable water availability.



2 SDG 2 ZERO HUNGER

- Efficient irrigation supports sustainable agriculture and higher productivity.
- Research contributes to climate-smart agriculture and food security.



4 SDG 4 QUALITY EDUCATION

- Living laboratory for practical learning and research.
- Students use real-time data for projects, theses and evidence-based solutions.
- Internships and training build capacity and skills.



13 SDG 13 CLIMATE ACTION

- Enhances climate resilience through water conservation, recharge and efficient use.
- Nature-based solutions mitigate climate impacts and water scarcity.



7 SDG 7 AFFORDABLE AND CLEAN ENERGY

- Solar-powered drip irrigation reduces reliance on conventional energy.
- Promotes clean and renewable energy use on campus.



8 SDG 8 DECENT WORK AND ECONOMIC GROWTH

- Internships, capacity building and technical training enhance employability.
- Develops skilled human resources in water and environment sectors.



9 SDG 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

- Adoption of innovative technologies (sensors, solar irrigation, rainwater harvesting).
- Strengthens sustainable infrastructure on campus.



12 SDG 12 RESPONSIBLE CONSUMPTION AND PRODUCTION

- Encourages responsible water use, reuse and recycling.
- Reduces wastage through efficient systems and automation.



17 SDG 17 PARTNERSHIPS FOR THE GOALS

- Strong collaboration with IWMI, WWF, government departments and partners.
- Multi-stakeholder approach drives sustainable impact.



SUSTAINABLE WATER MANAGEMENT FOR A RESILIENT & SUSTAINABLE FUTURE

CONSERVE • REUSE • RECHARGE • RESTORE

MONITOR • INNOVATE • EDUCATE



11 SDG 11 SUSTAINABLE CITIES AND COMMUNITIES

- Sustainable campus planning, stormwater management and water retention enhance resilience.
- Demonstrates a model for sustainable communities.



15 SDG 15 LIFE ON LAND

- Green spaces, vegetative cover and wetlands protect biodiversity.
- Infiltration, recharge and soil moisture conservation improve ecosystem health.

OVERALL IMPACT



Conserves water resources and promotes reuse of treated/harvested water.



Improves agricultural productivity and supports food security.



Enhances research, education and practical learning opportunities.



Builds climate resilience and protects natural ecosystems.



Strengthens institutional sustainability and reputation.



Benefits students, community and future generations.

Through integrated water conservation, reuse, recharge and innovation, Hazara University contributes to a sustainable, resilient and equitable future aligned with the Sustainable Development Goals.

OUR PARTNERS IN SUSTAINABILITY



IWMI
International Water Management Institute



WWF



UKaid
from the British people



Government Departments & Local Partners



HAZARA UNIVERSITY
Knowledge • Innovation • Sustainability

Chapter 6: Transportation (TR)

6.1 University Transport System

6.1.1 Shuttle Service and Net Zero Emission Policy

University sites in and around Mansehra and Abbottabad are very well served by students, faculty and administration transport buses run by the University management. The university own shuttle service inside the campus and outside the campus in and around district Mansehra is active from 0700 hrs. to 1700 hrs. five days a week.

- No. of Shuttle buses operated in university: **04**
- No. of Van deployed for pick and drop of staff **02**
- Average No. of Passenger of each shuttle/Bus: **35**
- No. of busses operated outside the campus **16**
- Total Trips of shuttle service each day: **22**

No. of Zero emission Vehicles on campus per day: 32



6.1.2 Pedestrian Path Policy on Campus

Hazara University is having a lush green beautiful campus with many separated pathways for pedestrian inside the whole campus designed in double season system, sustained paths for winter and shady paths for summer uses. Ramps and guiding blocks which have suitable design for pedestrian having physical disabilities. Street lamps for pedestrian in night. The Campus has 179 solar streetlamps, which is controlled by dual charge backup. Wheelchairs are available for physically handicap students at the main entrance of the university. Every Building have the feature of Pathways for disabled persons.



Chapter 7: Education and Research

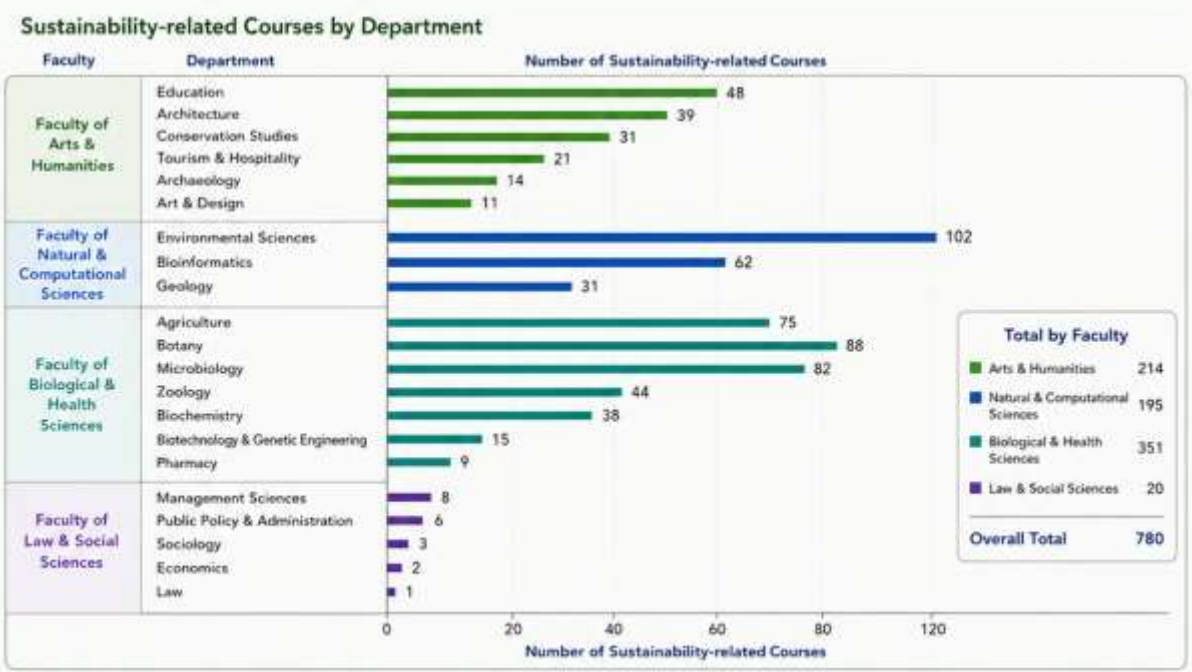
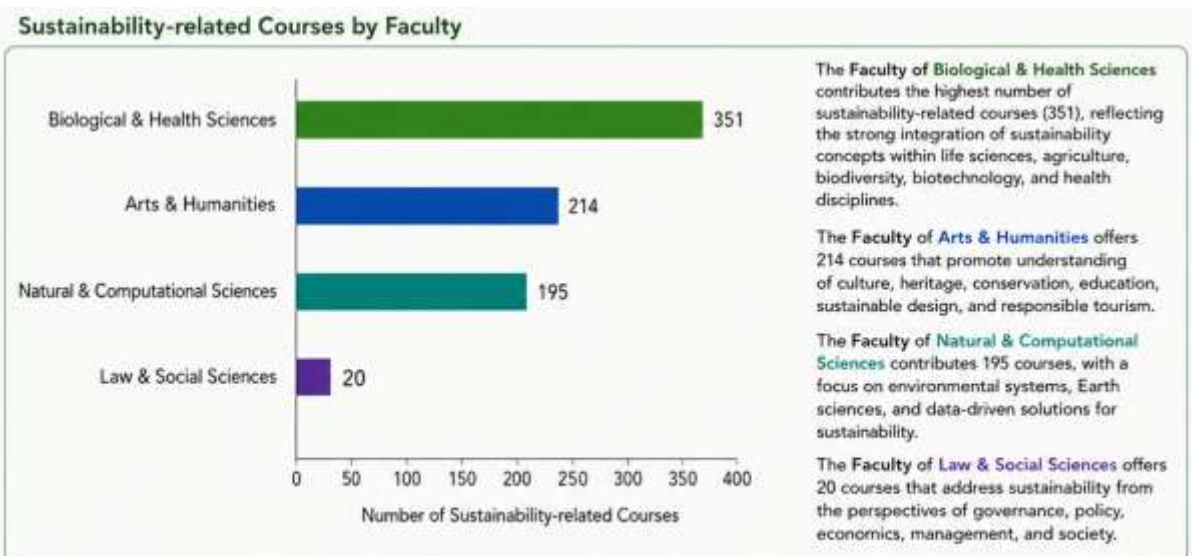
7.1 Sustainability Education

7.1.1 Number of Courses/Subjects Related to Sustainability Offered

Hazara University is committed to advancing the United Nations Sustainable Development Goals (SDGs) through education, research, and community engagement. Sustainability principles are embedded across a wide range of academic programs, ensuring that students graduate with the knowledge, skills, and values necessary to contribute to environmental stewardship, social equity, and economic resilience.

A comprehensive review of degree programs during the 2024-25 academic year identified a total of **780** sustainability-related courses offered across **34 departments** and four faculties. These courses integrate sustainability concepts such as environmental conservation, biodiversity protection, climate change, resource efficiency, sustainable agriculture, health and well-being, responsible governance, and ethical leadership.

The department-level analysis demonstrates that sustainability education at Hazara University is multidisciplinary and deeply embedded across academic programs. **21** in Environmental Sciences, **19** in Microbiology, **20** in Zoology, **18** in Bioinformatics, **21** in Botany, **19** in Education, **18** in Biochemistry and **21** in Architecture etc. Other departments of the university maintained **15%** courses (**i.e. 360 courses in the rest of 26 departments**) related to sustainability of the total courses offered in each department Through this comprehensive integration of sustainability in teaching and learning, Hazara University reaffirms its commitment to shaping responsible leaders and informed citizens for a sustainable world.



7.1.2 Research Funds Dedicated to Sustainability Research

For FY 2024–2025, the University's total annual budget amounted to **PKR 1.946 billion** (approximately USD 6.99 million). Of this amount, **PKR 187 million** (approximately USD 0.67 million) was allocated to sustainability-related initiatives. This represents **10% of the University's total annual budget**, demonstrating a significant institutional commitment to sustainability and environmental stewardship.

Major Areas of Sustainability Expenditure

1. **Waste Management and Recycling**
 - Solid waste collection and segregation
 - Composting of organic waste
 - Recycling of paper, plastic, and other materials
 - Waste management awareness programs
2. **Energy Efficiency and Renewable Energy**
 - Installation of solar panels
 - Energy-efficient lighting (LEDs)
 - Energy monitoring and conservation measures
 - Upgrading electrical infrastructure to reduce energy consumption
3. **Water Conservation and Management**
 - Water treatment and purification systems
 - Rainwater harvesting
 - Water-efficient fixtures and irrigation systems
 - Sewerage and drainage management
4. **Green Campus Development**
 - Tree plantation and landscaping
 - Biodiversity conservation initiatives
 - Development and maintenance of green spaces
 - Campus beautification projects
5. **Sustainable Transportation**
 - Campus shuttle services
 - Measures to reduce transportation-related emissions
6. **Education, Research, and Training**
 - Sustainability-related academic programs
 - Research projects on environmental and social sustainability
 - Student and staff training workshops
 - Community outreach and awareness campaigns
7. **Climate Change and Environmental Protection**
 - Carbon footprint assessment and reduction measures
 - Air and water quality monitoring
 - Environmental compliance and audits

- Climate resilience initiatives

8. Sustainable Infrastructure

- Green building construction and renovation
- Environmentally friendly procurement practices
- Resource-efficient campus facilities

7.1.3 Sustainability Research and Publication

The University employed **365 faculty members**, of which approximately **274 (75%)** were affiliated with departments contributing directly to sustainability education and research. During the reporting year, the University produced **605 research publications**, with an estimated **575 publications (95%)** addressing sustainability-related themes. This resulted in a **sustainability publication-to-faculty ratio of 2.10:1 (210%)**, indicating that more than two sustainability-focused publications were produced for every faculty member working within sustainability-related disciplines. These figures reflect a very strong institutional commitment to sustainability research and demonstrate the University's significant contribution to advancing sustainable development through scholarly output.

Total Faculty = 365

Faculty in Sustainability-Related Departments (75%)

$$365 \times 0.75 = 273.75$$

≈ 274 faculty members

Total Annual Publications = 605

Sustainability-Related Publications (95%)

$$605 \times 0.95 = 574.75$$

≈ 575 publications

Sustainability Publication-to-Faculty Ratio

$$\frac{575}{274} = 2.10$$

Ratio = 575 : 274 = 2.10 : 1

This means that, on average, each sustainability-related faculty member produced approximately **2.1 sustainability-focused publications** during the reporting year.

Key Indikator

Indicator	Value
Total Faculty	365
Sustainability-Related Faculty	274
Total Publications	605
Sustainability Publications	575
Publication-to-Faculty Ratio	2.10 : 1
Ratio (%)	210%
Sustainability Share of Publications	95%

7.1.4 Events Related to Sustainability

During the year 2025, Hazara University demonstrated strong institutional commitment to sustainability through the organization of **more than 50 sustainability-related events** across the campus. These activities included a diverse range of academic, awareness, and practical engagement programs such as **international conferences, seminars, training workshops, hands-on training sessions, and guest lectures** focused on environmental sustainability and climate action.

Key global environmental observances were actively celebrated, including **World Environment Day, Earth Day, and Disaster Risk Reduction Day**, providing platforms for awareness-raising and knowledge dissemination on pressing environmental challenges. These

events were designed to enhance understanding of sustainability issues among students, faculty, and the wider university community.

Student participation played a central role in the success of these initiatives. Various student-led organizations, including the **Environmental Club, Youth Green Movement, and departmental societies**, were actively involved in planning and implementation. These organizations contributed significantly by organizing **awareness sessions, environmental walks, plantation campaigns, clean campus drives, and anti-plastic initiatives**.

Student representatives, particularly from the Environmental Club, consistently participated as **members of organizing committees**, ensuring active engagement in event coordination and execution. This collaborative approach between faculty, administration, and student bodies strengthened the culture of sustainability on campus and promoted experiential learning.

Overall, the University's sustainability events in 2025 reflect a well-integrated approach to environmental education and community engagement, fostering awareness, participation, and action toward sustainable development goals.





7.1.5 Sustainability and International Collaborations

International Research Projects and Institutional Linkages at Hazara University

1. Archaeology Research Project: British Period Heritage in Khyber Pakhtunkhwa

Hazara University is collaborating with University of Leicester and Directorate of Archaeology and Museums Khyber Pakhtunkhwa on a major research initiative focused on identifying, documenting, and preserving British-period heritage sites across Khyber Pakhtunkhwa. The project aims to strengthen communal memory, cultural identity, heritage conservation, and heritage-based economic opportunities.

Key Objectives

- Identification of British-period archaeological and historical sites.
- Documentation and mapping of heritage assets.
- Development of heritage tourism opportunities.
- Creation of business and employment opportunities for local communities.

Major Activities

- Archaeological surveys of urban and rural areas.
- GIS-based mapping and spatial analysis.
- Photographic and written documentation of heritage structures.
- Excavation of selected sites.
- Analysis of archaeological artefacts and historical records in Urdu, Pashto, and English.

This project represents one of the first comprehensive archaeological investigations of British-period material heritage in present-day Pakistan.

2. Wheat Rust Disease Surveillance Project

Funded by the Bill & Melinda Gates Foundation and the Foreign, Commonwealth & Development Office, this project aims to improve wheat disease management through surveillance, genotyping, forecasting, and early warning systems.

Key Outcomes

- Monitoring major wheat-growing regions across Pakistan.
- Collection and analysis of wheat rust disease samples (2023–2026).
- Molecular genotyping and diagnostic testing.
- Development of disease prediction models.
- Establishment of an early warning system to protect national wheat production.

3. Wild Olive Genomics and Cartography Project

Conducted in partnership with CIHEAM Bari under the OliveCulture initiative and supported by the Italian Ministry of Foreign Affairs and International Cooperation.

Key Achievements

- First comprehensive mapping of wild olive resources in Pakistan.
- Collection of wild olive samples and field data.
- DNA extraction and genomic characterization.
- Contribution to global olive genetic databases.
- Support for biodiversity conservation and sustainable agricultural development.

National and International Institutional Linkages

Hazara University has established academic, research, conservation, and professional collaborations with numerous national and international organizations, including:

- Army Museum Rawalpindi
- Taxila Museum

- Peshawar Museum
- Taxila Institute of Asian Civilizations
- ICCROM (Italy)
- University of Isfahan
- Canadian Conservation Institute
- CACH (China)
- Directorate of Archaeology and Museums Islamabad
- University of Leeds
- Teachers Resource Center Karachi
- International Water Management Institute
- World Wide Fund for Nature
- Sustainable Development Solution Network
- Society for Ecological Restoration
- British Ecological Society

Through its international research projects and strategic partnerships, Hazara University is contributing significantly to heritage conservation, agricultural innovation, biodiversity research, community development, and sustainable resource management. These collaborations enhance research capacity, promote knowledge exchange, and support progress toward multiple Sustainable Development Goals (SDGs), particularly SDGs 2, 4, 8, 11, 13, 15, and 17.

NEWS PAKISTAN

"Archaeology and Heritage of British Period in Khyber Pakhtunkhwa, Pakistan"

BRITISH COUNCIL

Pak-UK Education Gateway
Innovative and Collaborative Research Grant (ICRG)

Project Budget: PKR 5.22 Millions
Project's Duration: 3 Years (July, 2021 - June 2024)

Project Methodology:
Landscape Surveys, Urban Surveys, Satellite Imagery Analysis, Individual Building Recording, Excavations, Historical Material Analysis, Oral Histories and Artifact Analysis

Project Themes:
an Archaeology of Military Installation, an Archaeology of the British Impact on a local population, an Archaeology of communication and trade, an Archaeology of Religion and belief, and an Archaeology of personality in Khyber Pakhtunkhwa



CAPACITY-BUILDING GRANTS SUCCESS STORIES

Every year, the GS offers grants to support initiatives aimed at promoting networking, educational activities, analytical training, or capacity building related to geochemistry in countries with low and lower-middle-income economies. Grants up to \$3,000 are available and will be awarded later this year. Learn more at geochemsoc.org/programs/outreach-programs/capacity-building-grants.

Since launching this program six years ago, the GS has awarded nearly 20 grants to projects in 10 countries. Two recent projects supported by the GS are summarized below.

Hands-on Training Workshop on In-Situ Water Quality Monitoring and Groundwater Governance

A training workshop was held on the 15th of April, 2025, at Jinnah Hall Hazara University, Pakistan, organized by the Department of Earth and Environmental Sciences and supported by a GS Capacity Building Grant application submitted by Dr. Junaid Ali Khattak. The first part of the workshop featured topics on groundwater governance and management and included presentations from representatives of the International Water Management Institute (IWMI) on the overview and scope of the Water Resource Accountability in Pakistan (WRAP) program and highlighted the application of the Groundwater Management Information System (GMIS) for informed decision making. In the second part of the workshop, participants were divided into groups for practical demonstrations of water quality testing field kits, and an analysis of arsenic, fluoride, sulphates, iron, nitrates, pH, and conductivity was conducted on water samples. Next, participants visited the agriculture farm of Hazara University, where IWMI representatives gave a practical demonstration of IWMI's climate-resilient agriculture approaches, including a soil moisture sensor and solar-powered drip irrigation coupled to rainwater harvesting. The event was attended by more than 250 participants, including faculty and students from Hazara

Essentials



Field kit demonstration to the students of Earth and Environmental Sciences, Hazara University, Pakistan.

Submittable



Dear Feja Umer,

It is with great pleasure that I write to inform you that the Networks Strategy Council of the Sustainable Development Solutions Network (SDSN) has enthusiastically approved Hazara University for membership in the Network. We are very happy to have you join us and look forward to working together in support of sustainable development.

The Financial Daily
12-June-2026

Hazara University gains global recognition through China visit



HAZARA UNIVERSITY has gained global recognition through a successful visit to China. The visit, led by the Vice-Chancellor, Dr. Junaid Ali Khattak, was part of a series of international engagements aimed at strengthening the university's global network and promoting sustainable development. The delegation met with officials from the Chinese Ministry of Education and other key stakeholders, discussing potential collaborations in the fields of education, research, and community service. The visit also provided an opportunity for the university's faculty and students to engage in cultural exchange and learn from the Chinese educational system. The successful outcome of the visit is a testament to the university's commitment to internationalization and its efforts to become a globally recognized institution.

7.1.6 Sustainability and Community Services

Hazara University actively promotes sustainability through community service projects, outreach activities, capacity-building programs, and environmental awareness initiatives. During the reporting period, a total of **Seven major sustainability-focused community service projects** were organized, engaging approximately **4,400 students and community members**.

Project Name	Participants	Duration	Project Area
Hands-on Training Workshop	200	4 Months	Water Resources (WR)
Conservation of Plants and Animals	200	2 Months	Sustainability Initiatives (SI)
Plantation Green Pakistan Campaign	3,200	1 Month	Environmental Development (ED)
Green Impact Building Project	150	3 Months	Environmental Development (ED)
CMS & LMS Green Website Training	450	2 Months	Environmental Development (ED)
Nature-Based Interventions in Siran Valley	50	15 Days	Water Resources
Soil Moisture Sensors Installation	200	1 Month	Water Conservation

In addition to these projects, Hazara University collaborated with the International Water Management Institute (IWMI) and local farming communities to implement practical sustainability interventions aimed at improving water management and agricultural resilience. Through a holistic community engagement approach, farmers received training on water conservation practices, efficient irrigation management, and sustainable agricultural techniques.

The initiative also facilitated the provision and demonstration of modern technologies, including soil moisture sensors, water quality testing equipment, and innovative water-lifting pumps capable of transporting water from lower to higher elevations without the use of fossil-fuel-based energy sources. These activities enhanced community awareness, promoted resource efficiency, improved agricultural productivity, and contributed to climate-resilient farming systems.

Collectively, these projects strengthened environmental stewardship, encouraged student participation in community development, and supported the achievement of several Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education), SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), SDG 11 (Sustainable Communities), SDG 13 (Climate Action), SDG 15 (Life on Land), and SDG 17 (Partnerships for the Goals).





7.1.7 Sustainability Office

Hazara University has established dedicated institutional mechanisms to coordinate, promote, and monitor sustainability initiatives across the campus. The University recognizes that effective sustainability governance requires leadership, coordination, stakeholder engagement, and continuous monitoring of sustainability-related activities.

A key knowledge resource for sustainability exists within the **Department of Earth and Environmental Sciences**, which serves as an academic hub for sustainability-related teaching, research, community outreach, and environmental stewardship activities. The department actively contributes expertise in environmental management, climate change, biodiversity

conservation, natural resource management, waste management, and sustainable development practices.

To strengthen institutional sustainability governance, the University has designated a senior faculty member from the Department of Earth and Environmental Sciences as the **Sustainability Officer**. The Sustainability Officer is responsible for leading and coordinating sustainability initiatives across the University and may constitute multidisciplinary working groups or teams comprising faculty members, administrative staff, students, and external stakeholders to support sustainability planning and implementation.

In addition, a dedicated sustainability coordination wing operates within the **Sustainability and Environmental Cell (SEC)** under the supervision of the **Deputy Director, Quality Enhancement Cell (QEC)**. This office oversees sustainability-related policies, reporting, data collection, performance monitoring, awareness campaigns, and stakeholder engagement activities. The SEC works closely with academic departments, administrative units, student organizations, and external partners to integrate sustainability principles into teaching, research, campus operations, and community engagement.

The Sustainability Officer and SEC jointly facilitate the University's sustainability agenda by promoting environmental awareness, supporting sustainability-focused research, coordinating SDG-related initiatives, preparing sustainability reports, encouraging community outreach programs, and strengthening national and international collaborations. Through this governance structure, Hazara University ensures that sustainability remains an integral component of institutional planning, decision-making, and continuous improvement.

Key Functions of Sustainability Governance at Hazara University

Coordinate campus-wide sustainability initiatives and SDG implementation.

Promote sustainability education, research, and innovation, and monitor environmental performance and sustainability indicators.

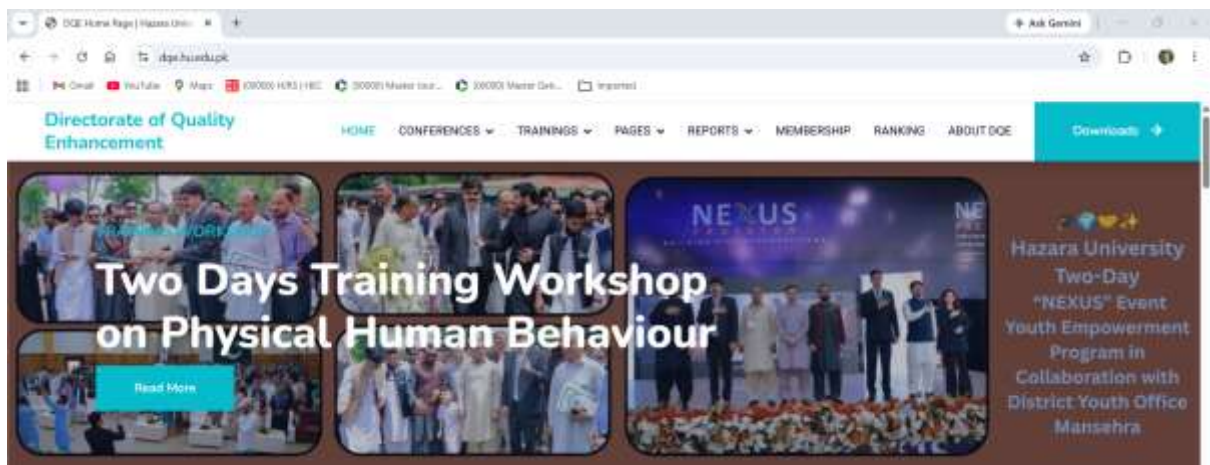
Support waste management, biodiversity conservation, water conservation, and climate action programs.

Facilitate sustainability reporting and quality assurance processes.

Strengthen stakeholder participation through student, faculty, and community engagement.

Develop partnerships with national and international organizations working on sustainability and sustainable development.

This governance framework demonstrates Hazara University's commitment to institutional sustainability and provides a structured mechanism for advancing environmental responsibility, social well-being, and sustainable development across the University community.



7.1.6 Impact of Education and research in Supporting SDGs

Hazara University's sustainability-focused education, research, community engagement, and institutional initiatives contribute significantly to the achievement of multiple Sustainable Development Goals (SDGs). Through 151 sustainability-related courses, international research collaborations, community service projects, sustainability office initiatives, and green employment opportunities for graduates, the University creates measurable environmental, social, and economic impacts.

SDG 2 – Zero Hunger

Agricultural research, wheat disease surveillance, and farmer outreach programs contribute to improved food security and sustainable agricultural production.

SDG 4 – Quality Education

Sustainability concepts are integrated into academic programs, research activities, training workshops, and student learning experiences.

SDG 6 – Clean Water and Sanitation

Water conservation projects, soil moisture monitoring, water quality testing, and sustainable irrigation initiatives promote efficient water resource management.

SDG 8 – Decent Work and Economic Growth

Sustainability education and professional training support graduate employability and create pathways to green jobs and sustainable livelihoods.

SDG 11 – Sustainable Cities and Communities

Research on cultural heritage conservation, heritage tourism, and green campus initiatives strengthens sustainable and resilient communities.

SDG 12 – Responsible Consumption and Production

Waste management programs, recycling initiatives, composting activities, and sustainability awareness campaigns encourage responsible resource use.

SDG 13 – Climate Action

Tree plantation campaigns, environmental research, biodiversity conservation, and climate-smart agricultural practices contribute to climate resilience.

SDG 15 – Life on Land

Research and conservation projects involving plants, wildlife, forests, and biodiversity support ecosystem protection and restoration.

SDG 17 – Partnerships for the Goals

International collaborations with universities, research institutes, government agencies, and development organizations strengthen knowledge sharing and sustainability innovation.

Hazara University's integrated approach to education, research, community service, and institutional sustainability contributes directly to at least nine Sustainable Development Goals while preparing graduates to become future sustainability leaders and professionals. Overall, the university advances nine Sustainable Development Goals through sustainability education, applied research, community engagement, institutional sustainability leadership, and the development of a skilled green workforce.

IMPACT OF EDUCATION & RESEARCH ON SUSTAINABLE DEVELOPMENT GOALS (SDGs)

Hazara University drives sustainability through quality education, innovative research, community engagement and global partnerships for a better future.



EDUCATION + RESEARCH + COMMUNITY ENGAGEMENT + SUSTAINABILITY OFFICE = CONTRIBUTION TO 9 SDGs

151 SUSTAINABILITY COURSES	INTERNATIONAL RESEARCH PROJECTS	5 COMMUNITY SERVICE PROJECTS	4,200+ PROJECT PARTICIPANTS	GREEN SKILLS & TRAINING	GREEN JOBS FOR GRADUATES	GLOBAL PARTNERSHIPS FOR IMPACT
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Chapter 8: Governance and Digitalization

8.1 Information Technology and Governance Enhancement

8.1.1 Ratio of Female Leaders to Total Institutional Leaders

The institution has a total of **104 leadership and deputy leadership positions**, of which **46 are held by women**. Therefore, the **ratio of female leaders to total institutional leaders is 44.2%**, indicating substantial female representation in leadership roles across the university, faculty/school, study program, and university-unit levels.

Leadership Level	Total Leaders & Deputies	Female Leaders & Deputies
University Level	6	2
Faculty / School Level	34	14
Study Program Level	21	22
University-Level Units	43	8
Total	104	46

$$\text{Ratio of Female Leaders} = \frac{46}{104} \times 100 = 44.2\%$$

8.1.2 Anti-Corruption and Integrity System of the University

Hazara University manages anti-corruption and institutional integrity through a combination of Standard internal regulatory frameworks, oversight boards, and student-driven ethical initiatives. The primary mechanisms that maintain accountability include the following key components:

Internal Regulatory Committees: The university operates structured Anti-Plagiarism Standing Committees and statutory inquiry bodies that process grievances, discipline staff, and maintain strict academic standards in accordance with the Hazara University Academic Rules and Regulations.

Character Building Societies: Hazara University's Directorate of Student Affairs partners with the **National Accountability Bureau (NAB)** to sponsor seminars and anti-corruption weeks. These initiatives use essay contests and campaigns to educate the student body on transparency and zero-tolerance for corruption.

Grievance and Complaint Cell: The university administration manages an official [Hazara University Complaint Cell](#) to handle concerns from students and staff.

External Regulatory Oversight: On a broader scale, university governance and ethical compliance are aligned with the provincial statutes and overseen by the [Higher Education Commission of Pakistan](#) and provincial anti-corruption establishments.

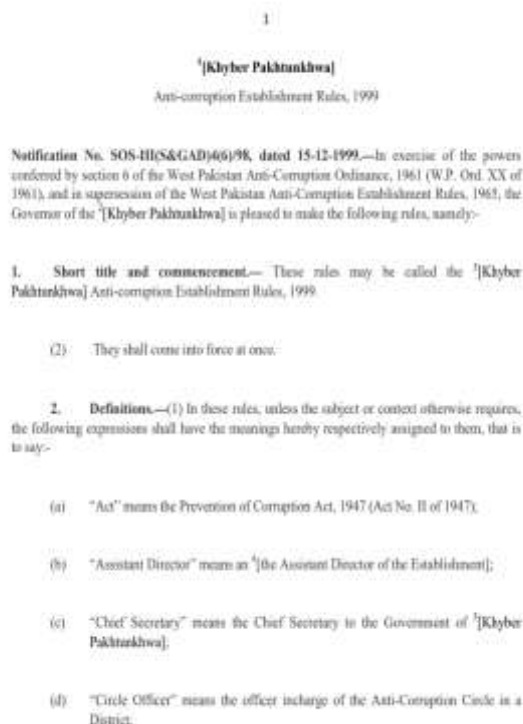
For legal compliance and oversight, the university operates within the following frameworks:

Provincial Legislation: The university was established under the **Hazara University Act 1997**, which outlines the statutory roles, powers, and accountability parameters for university management and financial discipline.

University Code of Conduct: The university enforces strict internal policies governing academic behavior, ethical operations, and anti-plagiarism through its established **Academic Rules, Regulations, and Procedures**.

External Oversight: When serious allegations of financial corruption or non-meritocratic hiring occur, cases are investigated by external state bodies like the **National Accountability Bureau (NAB)** and the provincial **Anti-Corruption Establishment (ACE)**.

Transparency & RTI: To ensure administrative integrity and proactive disclosure, the institution complies with the **KP RTI Act**, which provides citizens with mechanisms to request official records and monitor administrative decisions.



8.1.3 Whistle Blowing and Complaint System of the University

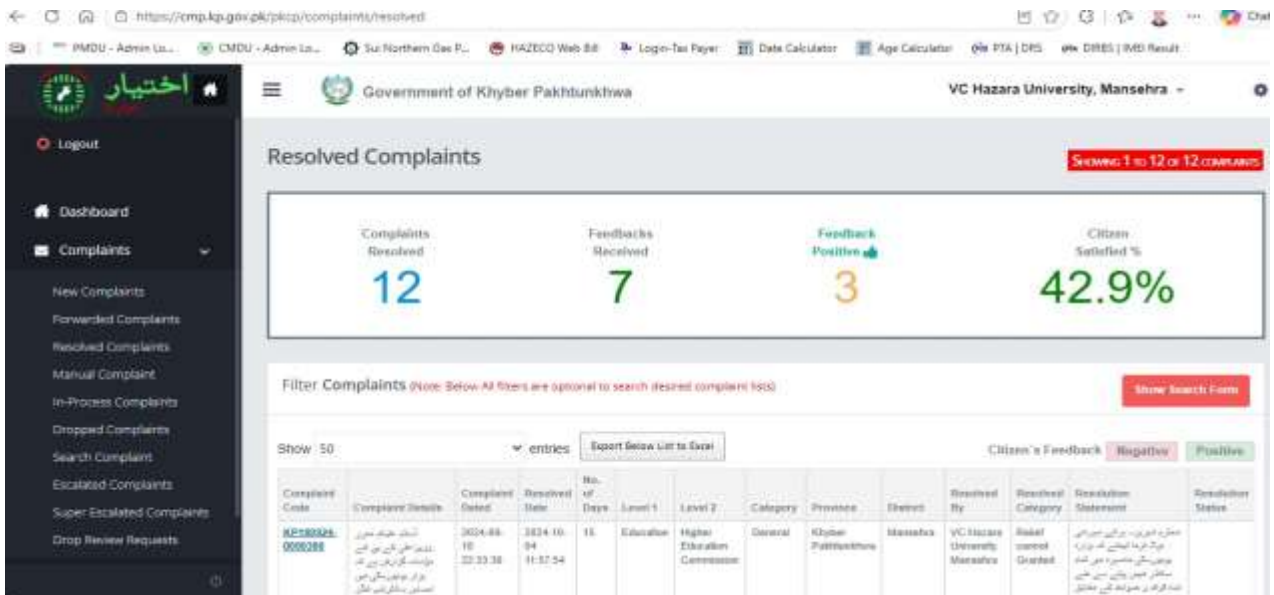
Under the Federal Government's Pakistan Citizen Portal initiative, Hazara University Mansehra is ensuring the prompt and effective resolution of complaints submitted by students, employees, and members of the general public. To date, a total of **1,730 complaints** received through the University's Pakistan Citizen Portal dashboard have been resolved in a timely manner. The University's performance is reflected in a **40.9% citizen satisfaction rate**, based on feedback received from complainants following the resolution of their cases. This demonstrates Hazara University's commitment to transparency, accountability, and responsive public service delivery.

Similarly, complaints received through the Government of Khyber Pakhtunkhwa's **Ikhtiyar Awam Ka** public grievance portal are addressed promptly in accordance with the prescribed rules and regulations. According to the University's dashboard on the **Ikhtiyar Awam Ka** portal, a total of **12 complaints** have been received to date, all of which have been successfully resolved. The University's performance is further reflected in a **42.9% citizen satisfaction rate**, based on feedback provided by complainants after the resolution of their grievances. This

highlights Hazara University's continued commitment to transparent, accountable, and citizen-centric governance.



Complaint Code	Complaint Details	Complaint Date	Received Date	Resolved Date	No. of Days	Level 1	Level 2	Category	Province	District	Resolved By	Resolved Category
KCPA9506 R0W61338	I am willing to formally report the delay in PCATP procurement for the Department of Architecture, Hazara University, Mansehra. We are	25/08/25 04/09/25 14/09/25	25/08/25 08/09/25 09/09/25	25/08/25 08/09/25 11/09/25	3	Education	Universities	General Complaint	Khyber Pakhtunkhwa	Mansehra	VC, Hazara University	Relief Granted



8.1.4 LMS-Enabled Digital Literacy Program

Hazara University has implemented an active **Learning Management System (LMS)** and **Campus Management System (CMS)** to support digital learning, improve digital literacy, and reduce the environmental impact associated with paper-based academic processes. The LMS provides a centralized platform through which students and faculty can access course materials, assignments, announcements, assessments, and learning resources online. The CMS facilitates

student registration, admissions, class scheduling, attendance management, examination processes, transcript generation, and academic record management through digital workflows.

The LMS was initially expanded to support online and blended learning during the COVID-19 period and remains an active component of the University's teaching and learning infrastructure. Through these platforms, students develop essential digital competencies, including online communication, digital collaboration, information management, virtual learning, and responsible use of educational technologies.

In addition to its Learning Management System (LMS) and Campus Management System (CMS), Hazara University provides extensive digital access to scholarly literature through the Higher Education Commission (HEC) Digital Library. Students, researchers, and faculty members have online access to internationally recognized databases and publishers, including ProQuest Dissertations & Theses Global, ASTM Standards & Engineering Digital Library, eBrary, American Institute of Physics (AIP), Emerald, INFORMS, SpringerLink, Taylor & Francis, Wiley-Blackwell Journals, and Free Medical Journals. These resources provide thousands of full-text journals, dissertations, standards, conference proceedings, e-books, and research articles across science, engineering, medicine, social sciences, management, education, and humanities. The availability of these digital resources reduces dependence on printed materials, promotes paperless research practices, enhances digital literacy, and supports sustainable access to knowledge for the university community.

The adoption of LMS and CMS has significantly reduced the use of printed notices, handouts, assignment submissions, examination schedules, and administrative forms. Academic information is disseminated electronically, contributing to paper conservation, reduced printing costs, and lower carbon emissions associated with paper production and transportation. Hazara University recognizes these digital systems as an important contribution to sustainable campus operations and environmentally responsible education.

The University's commitment to technology-enhanced learning aligns with Sustainable Development Goal 4 (Quality Education) by promoting equitable access to educational resources while supporting sustainable resource management across campus operations. Hazara University's LMS and CMS continue to serve thousands of students and faculty members through an integrated digital learning environment that enhances educational quality and sustainability simultaneously.

HAZARA UNIVERSITY MANSEHRA

Khyber Pakhtunkhwa Universities Ranking 2026 (General Universities)

Rank	University	Relative Score
1	IMSciences Peshawar	100.00
2	Hazara University, Mansehra	95.02
3	University of Malakand	90.01
4	Abdul Wali Khan University, Mardan	86.75
5	Kohat University of Science and Technology	84.23
6	University of Swat	82.38
7	Shaheed Benazir Bhutto Women University, Peshawar	78.61
8	University of Peshawar	77.74
9	Islamia College University, Peshawar	74.18
10	Gomal University D.I. Khan	63.75
11	University of Science and Technology, Bannu	57.44
12	Shaheed Benazir Bhutto University, Sheringal	39.59

Congratulations to Hazara University Community. Hazara University got 2nd position overall in KP Universities Ranking having 95.02 Score.

Dr. Raja Umer Sajjad
Assistant Professor (TTS)
Earth and Environmental Sciences

Work Load (Spring Semester 2026): 12.0 CH.
 ENV332-S26-206-F23-A-Lecture | Cr./Student Count: 2.0 / 27
 ENV332-S26-206-F23-A-Lab | Cr./Student Count: 1.0 / 27
 ENV209-S26-601-SP2026-A | Cr./Student Count: 3.0 / 44
 ENV602-S26-3009-SP2026-A-Lecture | Cr./Student Count: 3.0 / 10
 ENV602-S26-3009-SP2026-A-Lab | Cr./Student Count: 1.0 / 10
 ENV209-S26-206-F23-A | Cr./Student Count: 3.0 / 17

Today Classes:
No class scheduled for today.

Class Title	Course ID	Class Type	Department/Center	Career	Status
GIS and Remote Sensing	ENV332-S26-206-F23-A	Lecture	206	Undergraduate	Active Class
GIS and Remote Sensing	ENV332-S26-206-F23-A	Lab	206	Undergraduate	Active Class
Climate Change	ENV209-S26-601-SP2026-A	Lecture	601	Undergraduate	Active Class
Climate Change Adaptation and Mitigation	ENV602-S26-3009-SP2026-A	Lecture	206	Graduate	Active Class
Climate Change Adaptation and Mitigation	ENV602-S26-3009-SP2026-A	Lab	206	Graduate	Active Class
Climate Change	ENV209-S26-206-F23-A	Lecture	206	Undergraduate	Active Class

8.1.5 Compliance with the General Data Protection Regulation

Hazara University is committed to protecting the privacy, confidentiality, integrity, and security of personal information belonging to students, faculty, staff, researchers, alumni, and other stakeholders. The University manages academic, administrative, and research data in accordance with applicable national regulations, Higher Education Commission (HEC) guidelines, and internationally recognized data protection principles.

The University follows key principles aligned with international data protection frameworks such as the General Data Protection Regulation (GDPR), including:

- Lawfulness, fairness, and transparency in data processing.
- Collection of personal data only for specified academic and administrative purposes.
- Data minimization and limitation to information necessary for institutional functions.
- Accuracy and timely updating of records.
- Secure storage and controlled access to personal information.
- Protection against unauthorized disclosure, loss, alteration, or misuse of data.
- Retention and disposal of records according to institutional requirements.
- Respect for the privacy rights of students, employees, and research participants.

Digital records are maintained through secured information systems, while access to sensitive information is restricted to authorized personnel. Research involving human participants is subject to ethical review procedures that ensure confidentiality and responsible handling of personal information.

Hazara University continues to strengthen its information governance practices through cybersecurity measures, user authentication protocols, secure data management procedures, and awareness among staff and students regarding responsible use of institutional data.

These practices demonstrate the University's commitment to compliance with evolving national data protection requirements and internationally accepted privacy standards.

Although Pakistan does not yet have a comprehensive data protection law equivalent to the European Union's General Data Protection Regulation (GDPR), the country has established constitutional and regulatory foundations for the protection of personal data and privacy.

Article 14(1) of the Constitution of the Islamic Republic of Pakistan recognizes privacy as a fundamental right by declaring that “the dignity of man and, subject to law, the privacy of home, shall be inviolable.” Pakistani courts have increasingly interpreted this provision to extend beyond physical homes to include digital communications and personal information.

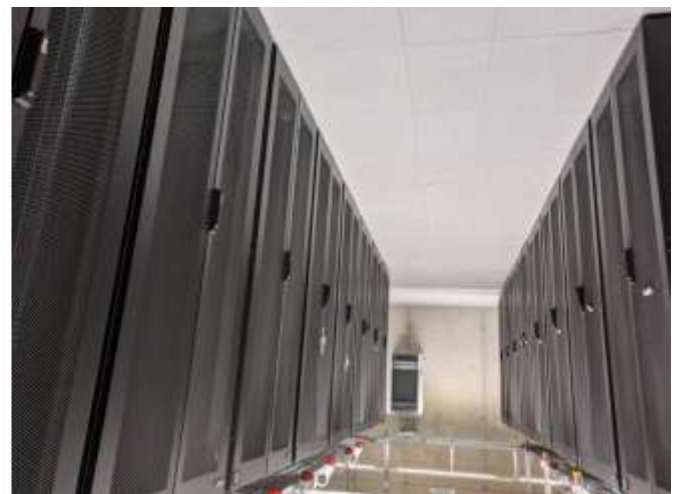
To further strengthen personal data protection, the Ministry of Information Technology and Telecommunication (MoITT) has developed successive versions of the Personal Data Protection Bill. The proposed legislation introduces principles similar to GDPR, including

lawful processing of personal data, informed consent, purpose limitation, data security, cross-border data transfer safeguards, and protection of sensitive personal information. Although the Bill has not yet been enacted, it reflects Pakistan's commitment to aligning with international best practices in data governance and privacy protection.

Hazara University follows these emerging national principles and internationally recognized standards by ensuring secure handling of student, staff, and research data, restricting unauthorized access to information, and maintaining confidentiality in academic and administrative processes.




References and Links

1. **Constitution of Pakistan – Article 14 (Right to Privacy)**
 - [Article 14, Constitution of Pakistan](#)
2. **Chambers & Partners – Data Protection & Privacy 2026 (Pakistan)**
 - Explains that Article 14 recognizes privacy as a fundamental right and that the Draft Personal Data Protection Bill largely mirrors GDPR principles.
 - [Data Protection & Privacy 2026 – Pakistan](#)
3. **International Bar Association – Data Privacy and Protection in Pakistan**
 - Overview of Pakistan's privacy framework and constitutional protections.
 - [Data Privacy and Protection in Pakistan](#)
4. **UCP Journal of Law & Legal Education**
 - Academic analysis of Pakistan's proposed Personal Data Protection Bill and its relationship with privacy rights.
 - [The Right to Privacy & Personal Data Protection: An Analysis of Pakistan's Proposed Personal Data Protection Bill](#)



8.1.6 Implementation of sustainability programs through ICT

Section A — ICT for sustainability management: screenshots of sustainability dashboard/reporting system/KPI platform (showing real modules/menus).

No	Initiative	Function	Brief Description	Screenshot or link of evidence
1	Sustainability Dashboard System	Monitoring & Evaluation	Web-based dashboard displaying UI GreenMetric KPIs with real-time and historical data	
2	Online Sustainability Reporting Portal	Planning & Implementation	Centralized portal for faculties and units to submit sustainability data with automated validation and aggregation	
3	Energy & Carbon Monitoring System	Monitoring	Digital system tracking electricity consumption and estimated carbon saving across campus facilities.	

Section B — Connectivity readiness: Wi-Fi coverage summary (map/list), Internet/network availability snapshot, and (if available) monitoring screenshots.

No	Initiative	Function	Brief Description	Screenshot or link of evidence
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1	Campus-Wide Wi-Fi Infrastructure	Implementation Support	Full Wi-Fi coverage in academic and administrative buildings to support digital sustainability management. 416 Wi-Fi devices installed inside campus and cover more than 90% campus and 98% admin/academic's block.
2	Redundant Internet Connectivity	Continuity	Dual ISP configuration to maintain stable network access for reporting and monitoring systems. Redundant bandwidth with 1Gbps Primary links and 100 MB secondary link as backup
3	Network Monitoring System	Monitoring	Centralized network monitoring dashboard ensuring uptime and service reliability. Cisco Prime dashboard /wireless controller dashboard.
...			



Section C — Infrastructure reliability and security: backup/continuity summary, access control/security policy excerpt, monitoring snapshot.

No	Initiative	Function	Brief Description	Screenshot or link of evidence
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1	Role-Based Access Control System	Governance & Data Integrity	User access managed by role with authentication and activity logs. Role based Active directory service enabled.
2	Data Backup & Disaster Recovery System	Continuity	Daily backups and defined recovery procedures to ensure system availability. Daily automotive incremental backups through croan job defined in system.
3	Annual ICT System Review & Upgrade	Evaluation & Improvement	Annual evaluation and periodic system upgrades based on audit results and user feedback. Yes, we do upgrade our based on our needs.



8.1.9 Written Code of Ethics

Hazara University is committed to maintaining the highest standards of integrity, professionalism, accountability, and responsible citizenship through its institutional Code of Conduct and disciplinary regulations. The University's code applies to students and guides behavior across academic, administrative, social, and extracurricular activities while promoting a respectful, inclusive, and sustainable campus environment.

The Code of Conduct emphasizes ethical behavior, honesty, respect for diversity, responsible use of institutional resources, protection of public property, compliance with university rules and regulations, and commitment to the well-being of the university community. It also encourages students and staff to uphold values of mutual respect, civic responsibility, environmental stewardship, and community service.

Key Ethical Principles Promoted by Hazara University

Integrity and Honesty

- Truthfulness and honesty in academic and personal dealings.
- Commitment to ethical conduct and responsible behavior.

Respect and Inclusiveness

- Respect for teachers, staff, fellow students, and the wider community.
- Promotion of dignity, tolerance, and positive social interactions.

Environmental Responsibility

- Protection and promotion of the environment and ecosystem.
- Encouragement of environmentally responsible behavior and sustainability awareness.

Responsible Use of Resources

- Protection of personal and public property.
- Promotion of resource efficiency and responsible consumption practices.

Academic Excellence

- Dedication to studies, research, sports, and co-curricular activities.
- Commitment to maintaining academic standards and institutional reputation.

Community Engagement

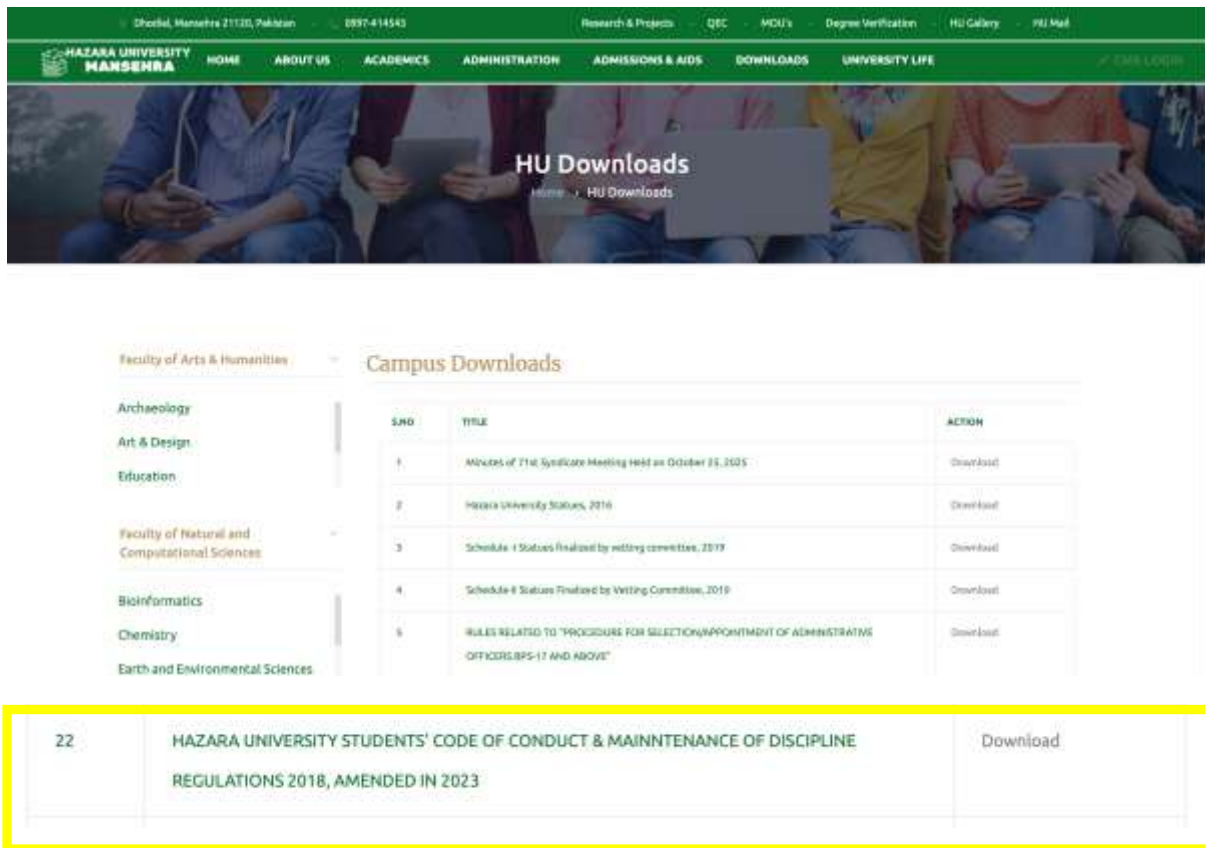
- Helpfulness toward fellow human beings.
- Promotion of civic responsibility and positive community participation.

Contribution to Sustainability

The University's ethical framework supports sustainability by fostering responsible citizenship, environmental stewardship, social cohesion, transparency, and accountability. Through its code of conduct, Hazara University contributes to SDG 4 (Quality Education), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), SDG 16 (Peace, Justice and Strong Institutions), and SDG 17 (Partnerships for the Goals) by encouraging ethical decision-making and sustainable behavior throughout the university community.

Hazara University Students' Code of Conduct & Maintenance of Discipline Regulations (2018, Amended 2023), available through the Hazara University document repository.

Hazara University document portal: [Hazara University Downloads & Regulations](#)



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