

2025

SDG- 9

INDUSTRY INNOVATION AND INFRASTRUCTURE

LUMHS Contribution to SDG -9 Industry, Innovation and Infrastructure

Liaquat University of Medical & Health Sciences (LUMHS) recognizes the vital role of innovation, resilient infrastructure, scientific research, and institutional partnerships in advancing sustainable development and socioeconomic progress. In alignment with United Nations Sustainable Development Goal 9 (Industry, Innovation and Infrastructure), the University is committed to strengthening its academic, research, healthcare, and technological infrastructure while fostering a culture of innovation, creativity, and knowledge-based development. Through its research initiatives, advanced laboratory facilities, technology-driven healthcare services, industry and institutional collaborations, capacity-building programmes, and partnerships with national and international organizations, LUMHS contributes to the development of innovative solutions to healthcare and societal challenges. The University also emphasizes the importance of modernizing research facilities, promoting interdisciplinary collaboration, supporting entrepreneurship and knowledge exchange, and building institutional capacity to address emerging scientific and technological needs. Through these initiatives, LUMHS demonstrates its commitment to advancing research excellence, strengthening innovation ecosystems, and developing resilient infrastructure that supports inclusive and sustainable development.

Establishment of Clinical Trial Units at LUMHS to Facilitate Research and Innovation

Liaquat University of Medical & Health Sciences (LUMHS) has established Clinical Trial Units (CTUs) to strengthen clinical research infrastructure and promote innovation in medical and health sciences. These dedicated research facilities provide an organized platform for conducting ethical, scientifically rigorous, and evidence-based clinical trials to evaluate the safety and effectiveness of new medicines, treatments, medical technologies, and healthcare interventions. The CTUs facilitate collaboration among researchers, healthcare professionals, clinical investigators, and pharmaceutical partners, creating opportunities for scientific advancement and the development of innovative healthcare solutions.

This initiative directly contributes to SDG 9: Industry, Innovation and Infrastructure by strengthening research infrastructure, supporting scientific innovation, facilitating industry–academia collaboration, and promoting the translation of research findings into practical healthcare applications. Through these facilities, LUMHS aims to enhance clinical research capacity, encourage the development and evaluation of new healthcare technologies, and contribute to the advancement of evidence-based clinical practices and improved patient care.




EMERGENCY CALL
CHAIN FLOWCHART
REPORT
GENERATING
DESK
CHANGING
ROOM





Participation in Founder Fiesta & E-commerce Essentials

Liaquat University of Medical & Health Sciences (LUMHS) participated in *Founder Fiesta & E-commerce Essentials* on 19th November 2025. The event focused on entrepreneurship, start-up development, and the fundamentals of e-commerce. LUMHS's participation reflects its commitment to equipping students and young professionals with entrepreneurial and digital skills beyond clinical and academic training. Engagement with the event exposed participants

to business start-up practices, online market access, and emerging opportunities in digital commerce. The students and faculty of institute of Biomedical Engineering, LUMHS.








loading...




TRUST YOUR CRAZY
IDEAS

The focus on Artificial Intelligence directly supported **SDG 9: Industry, Innovation and Infrastructure**, particularly through awareness of emerging technologies and their potential applications.

The panel discussion encouraged students to consider AI not only as a technological development but also as an area for future academic inquiry and research. Discussion of research opportunities can help students identify emerging areas in which they may develop further knowledge and expertise.

Fleming fund country grant and DAI, Phase II- 24th April 2024- 31st December 2025

Inauguration of refurbished Microbiology Laboratory under Fleming fund country grant and DAI, Phase II- 1st October 2025

Activity Report: International Collaboration for advancement of Laboratory Fleming Fund Country Grant (Pakistan), Phase II, in partnership with DAI

Title: Strengthening Antimicrobial Resistance (AMR) Surveillance through the Fleming Fund Country Grant and DAI, Phase II

Duration: 24 April 2024 to 31 December 2025

Overview
Liaquat University of Medical & Health Sciences (LUMHS) participated in Phase II of the Fleming Fund Country Grant and DAI initiative from 24 April 2024 to 31 December 2025. The partnership strengthened laboratory capacity and AMR surveillance at LUMHS, in collaboration with international development partners.

Key Activity: Inauguration of the Refurbished Microbiology Laboratory
On 1 October 2025, LUMHS inaugurated its refurbished Microbiology Laboratory under the grant. The upgraded facility improves the institution's diagnostic, teaching and research capability in microbiology and antimicrobial resistance.

Outcomes and Impact

- Upgraded laboratory infrastructure and facilities.
- Strengthened capacity for AMR surveillance and quality-assured microbiological testing.
- Improved training and research opportunities for students, faculty and technical staff.
- A sustained international partnership contributing to national and global AMR response efforts.

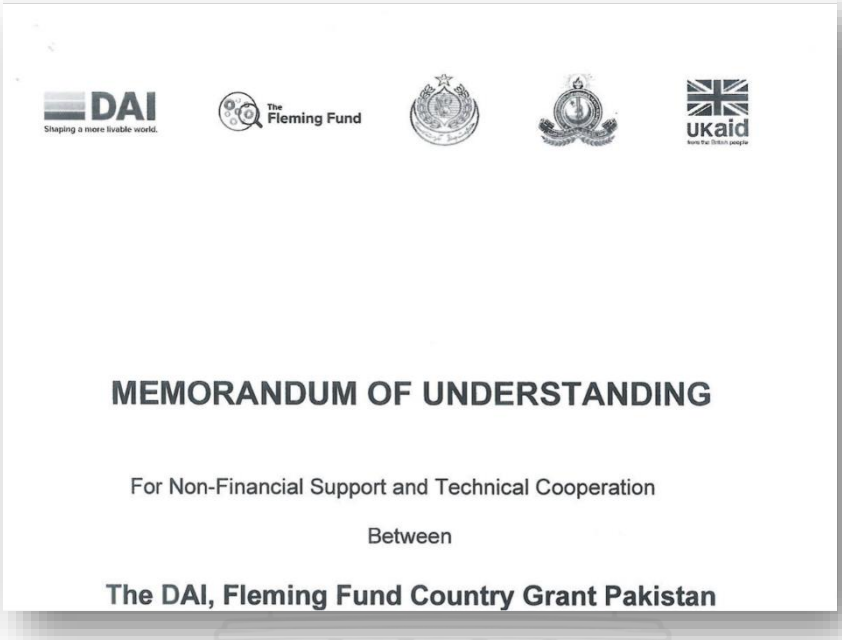

DAI
Training on Development of Antibiogram


DIFFERENTIATION OF ENTEROBACTERIACEAE BY BIOCHEMICAL TESTS
TESTS
SALMONELLA
KLEBSIELLA
PROTEUS VULGARIS
PROTEUS MIRABILIS
TSI
LACTOSE
GAS
H₂S
UREASE
SIMMONS
CITRATE
INDOLE
CULTURE INTERPRETATION BENCH





حیدر آباد: وائس چانسلر لیاقت یونیورسٹی میڈیکل اینڈ ہیلتھ سائنس پروفیسر ڈاکٹر اکرام دین اجن ڈائیگنوسٹک اینڈ ریسرچ لیبارٹری لمس میں مائیکرو بایولوجی لیبارٹری کا افتتاح کر رہے ہیں، دوسری جانب تقریب سے خطاب کر رہے ہیں۔



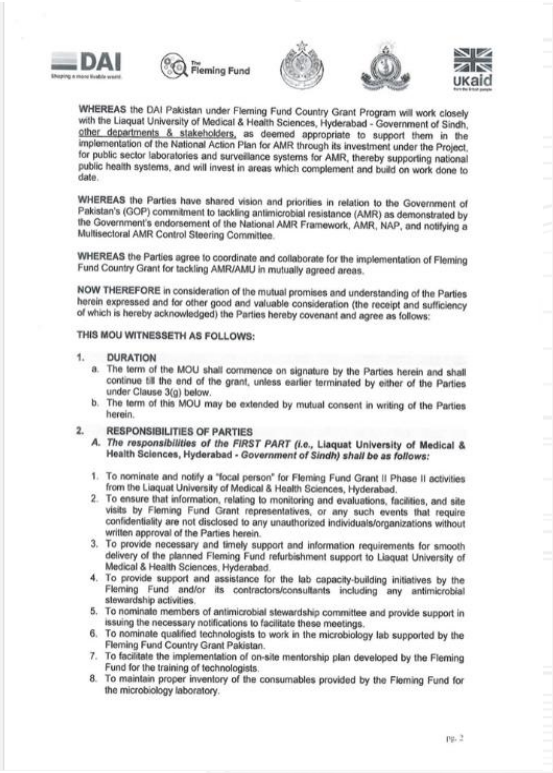
DAI Shaping a more livable world. The Fleming Fund UKaid from the British people

MEMORANDUM OF UNDERSTANDING

For Non-Financial Support and Technical Cooperation

Between

The DAI, Fleming Fund Country Grant Pakistan



DAI Fleming Fund UKaid

WHEREAS the DAI Pakistan under Fleming Fund Country Grant Program will work closely with the Liaquat University of Medical & Health Sciences, Hyderabad - Government of Sindh, other departments & stakeholders, as deemed appropriate to support them in the implementation of the National Action Plan for AMR through its investment under the Project, for public sector laboratories and surveillance systems for AMR, thereby supporting national public health systems, and will invest in areas which complement and build on work done to date.

WHEREAS the Parties have shared vision and priorities in relation to the Government of Pakistan's (GOP) commitment to tackling antimicrobial resistance (AMR) as demonstrated by the Government's endorsement of the National AMR Framework, AMR, NAP, and notifying a Multisectoral AMR Control Steering Committee.

WHEREAS the Parties agree to coordinate and collaborate for the implementation of Fleming Fund Country Grant for tackling AMR/AMU in mutually agreed areas.

NOW THEREFORE in consideration of the mutual promises and understanding of the Parties herein expressed and for other good and valuable consideration (the receipt and sufficiency of which is hereby acknowledged) the Parties hereby covenant and agree as follows:

THIS MOU WITNESSETH AS FOLLOWS:

1. **DURATION**
   a. The term of the MOU shall commence on signature by the Parties herein and shall continue till the end of the grant, unless earlier terminated by either of the Parties under Clause 3(g) below.
   b. The term of this MOU may be extended by mutual consent in writing of the Parties herein.
2. **RESPONSIBILITIES OF PARTIES**
   A. The responsibilities of the FIRST PART (i.e., Liaquat University of Medical & Health Sciences, Hyderabad - Government of Sindh) shall be as follows:
   1. To nominate and notify a "focal person" for Fleming Fund Grant II Phase II activities from the Liaquat University of Medical & Health Sciences, Hyderabad.
   2. To ensure that information, relating to monitoring and evaluations, facilities, and site visits by Fleming Fund Grant representatives, or any such events that require confidentiality are not disclosed to any unauthorized individuals/organizations without written approval of the Parties herein.
   3. To provide necessary and timely support and information requirements for smooth delivery of the planned Fleming Fund refurbishment support to Liaquat University of Medical & Health Sciences, Hyderabad.
   4. To provide support and assistance for the lab capacity-building initiatives by the Fleming Fund and/or its contractors/consultants including any antimicrobial stewardship activities.
   5. To nominate members of antimicrobial stewardship committee and provide support in issuing the necessary notifications to facilitate these meetings.
   6. To nominate qualified technologists to work in the microbiology lab supported by the Fleming Fund Country Grant Pakistan.
   7. To facilitate the implementation of on-site mentorship plan developed by the Fleming Fund for the training of technologists.
   8. To maintain proper inventory of the consumables provided by the Fleming Fund for the microbiology laboratory.

pg. 2



DAI Fleming Fund UKaid

IN WITNESS WHEREOF, this MOU is signed on the date, month and year first above written.

FIRST PARTY
On behalf of Liaquat University of Medical & Health Sciences, Hyderabad - Government of Sindh

Dr. Ikramuddin Ujjan
Vice Chancellor
Liaquat University of Medical & Health Sciences, Hyderabad Government of Sindh

Dated: 22/3/2024

SECOND PARTY
on behalf of DAI Pakistan.

Dr. Qadeer Ahsan,
Team Leader
Fleming Fund Country Grant,
DAI Pakistan

Dated: 21/3/2024

LUMHS organized Seminar: "In the Age of Artificial Intelligence "with the collaboration of Thari Students Alliance (TSA)

On 27 November 2025, the Thari Students Alliance (TSA) organized a seminar titled "In the Age of Artificial Intelligence" in Hyderabad, Sindh, bringing together Thari students from various educational institutions, university academics, technology experts, and members of civil society to explore the transformative role of Artificial Intelligence (AI) in education, research, technology, and future careers. The seminar provided an interactive platform for participants to discuss emerging technological advancements, future academic opportunities, scholarships, research prospects, and the evolving skills required to succeed in an increasingly technology-driven world. It also emphasized the importance of digital literacy, innovation, critical thinking, and academic preparedness in enabling students, particularly those from underserved communities, to benefit from emerging technological opportunities. By facilitating interaction between students, academics, and experts, the initiative encouraged knowledge-sharing, broadened awareness of higher education and research pathways, and promoted equitable access to emerging technologies and future skills. The activity contributed to SDG 4 (Quality Education), SDG 9 (Industry, Innovation and Infrastructure), SDG 10 (Reduced Inequalities), and SDG 17 (Partnerships for the Goals).

Panel Discussion and Academic Engagement

A major component of the seminar was a panel discussion focusing on the **future of Artificial Intelligence, research opportunities, scholarships, and academic preparedness**.

The session was moderated by **Dr. Gulzar Usman, LUMHS**, and featured distinguished academics including:

- **Prof. Dr. Khanji Harijan**, Dean, Mechanical Engineering, MUET
- **Prof. Dr. Pardeep Kumar**, Chairman, Software Engineering, Quaid-i-Awam University, Nawabshah
- **Prof. Sujomal Meghwar**, Chairman, Department of Geography, University of Sindh

The discussion addressed technological transformation and the implications of AI for education and research. It also highlighted the importance of preparing students with relevant knowledge and skills to engage with emerging technologies.

Objectives of the Seminar

The seminar aimed to:

- Increase awareness among students about the growing role of Artificial Intelligence.
- Promote understanding of emerging technologies and their applications.
- Encourage students to explore AI-related research and academic opportunities.
- Highlight opportunities for scholarships and further education.
- Encourage academic preparedness for a technology-driven future.
- Connect students with academics and experts from different disciplines.
- Provide a platform for students from underserved backgrounds to engage with wider

academic and professional networks.

Contribution to Quality Education

The seminar contributed to **SDG 4: Quality Education** by creating an opportunity for students to access contemporary knowledge outside the conventional classroom environment.

The discussion on AI, research, scholarships, and future academic requirements encouraged students to think about lifelong learning and the acquisition of relevant skills. Exposure to academics from multiple universities also allowed students to learn about diverse educational and research pathways.

The seminar was particularly supported:

- Digital and technological awareness
- Critical thinking
- Research orientation
- Academic preparedness
- Lifelong learning
- Career and higher education awareness
- Interaction with experienced academics

Contribution to Innovation and Technology

The focus on Artificial Intelligence directly supported **SDG 9: Industry, Innovation and Infrastructure**, particularly through awareness of emerging technologies and their potential applications.

The panel discussion encouraged students to consider AI not only as a technological development but also as an area for future academic inquiry and research. Discussion of research opportunities can help students identify emerging areas in which they may develop further knowledge and expertise.

Promoting Educational Inclusion

The participation of a significant number of **Thari students from different educational institutions** gave the seminar an important inclusion dimension.

Providing students from diverse educational and socioeconomic backgrounds with opportunities to interact with university academics and civil society can help broaden access to information about higher education, scholarships, research, and emerging fields.

This aspect of the event is aligned with **SDG 10: Reduced Inequalities**, particularly through the creation of opportunities for students who may have limited exposure to broader academic networks.

Academic Networking and Partnerships

The seminar also contributed to **SDG 17: Partnerships for the Goals** by creating a platform for interaction among:

- Students from different institutions
- University academics
- Civil society representatives
- Student organizations
- Academic experts from different disciplines

Such platforms can facilitate knowledge exchange, networking, mentorship, and potential future academic collaboration.

Key Learning Outcomes

The seminar provided participating students with opportunities to:

1. Understand the growing significance of Artificial Intelligence.
2. Explore potential AI-related research areas.
3. Learn about the importance of developing future-oriented academic and technological skills.
4. Become more aware of scholarship and higher education opportunities.
5. Interact directly with experienced university academics.
6. Develop broader perspectives on technology and its implications for education and society.
7. Strengthening academic and professional networks.

Conclusion

The seminar **"In the Age of Artificial Intelligence"** provided an important academic and awareness-building platform for Thari students to engage with contemporary technological developments and the changing requirements of higher education and research.

The participation of distinguished academics and students from different institutions facilitated meaningful knowledge exchange on **Artificial Intelligence, research opportunities, scholarships, technological transformation, and academic preparedness**.

The activity made a significant contribution to **SDG 4: Quality Education**, while also supporting **SDG 9, SDG 10, and SDG 17** through technology awareness, inclusive educational engagement, interdisciplinary learning, and academic networking. The seminar demonstrated the value of connecting students with academic expertise and emerging knowledge to expand their learning opportunities and preparedness for a rapidly changing technological environment.




Youth
intheageofAI
Panel Discussion, Speech & Music



Infrastructure to support SDG 9

Liaquat University of Medical & Health Sciences (LUMHS), Jamshoro progressively incorporating environmentally conscious design principles and green building elements across its campus infrastructure. As a public sector medical university with extensive academic, healthcare, and residential facilities, LUMHS recognizes the importance of sustainable building practices in reducing environmental impact and improving energy efficiency.

Several buildings across the campus have been designed or upgraded to maximize the use of natural ventilation and daylight. Architectural layouts in many academic departments, administrative offices, and healthcare facilities allow for adequate airflow and natural lighting, thereby reducing dependency on artificial lighting and mechanical cooling systems during daytime operations. This contributes to energy conservation and improved indoor environmental quality.

The University also emphasizes spatial planning that supports thermal comfort and efficient energy use. Building orientations and structural designs in various parts of the campus are aligned to optimize environmental conditions, helping to reduce heat gain and improve overall energy performance. These passive design features contribute to creating a more comfortable and sustainable indoor environment for students, faculty members, staff, and patients.

In addition, ongoing renovation and development projects within the University increasingly incorporate improved construction practices aimed at enhancing building efficiency and functionality. These improvements include better ventilation systems, upgraded materials, and more efficient use of internal space to support sustainable operations.

Libraries



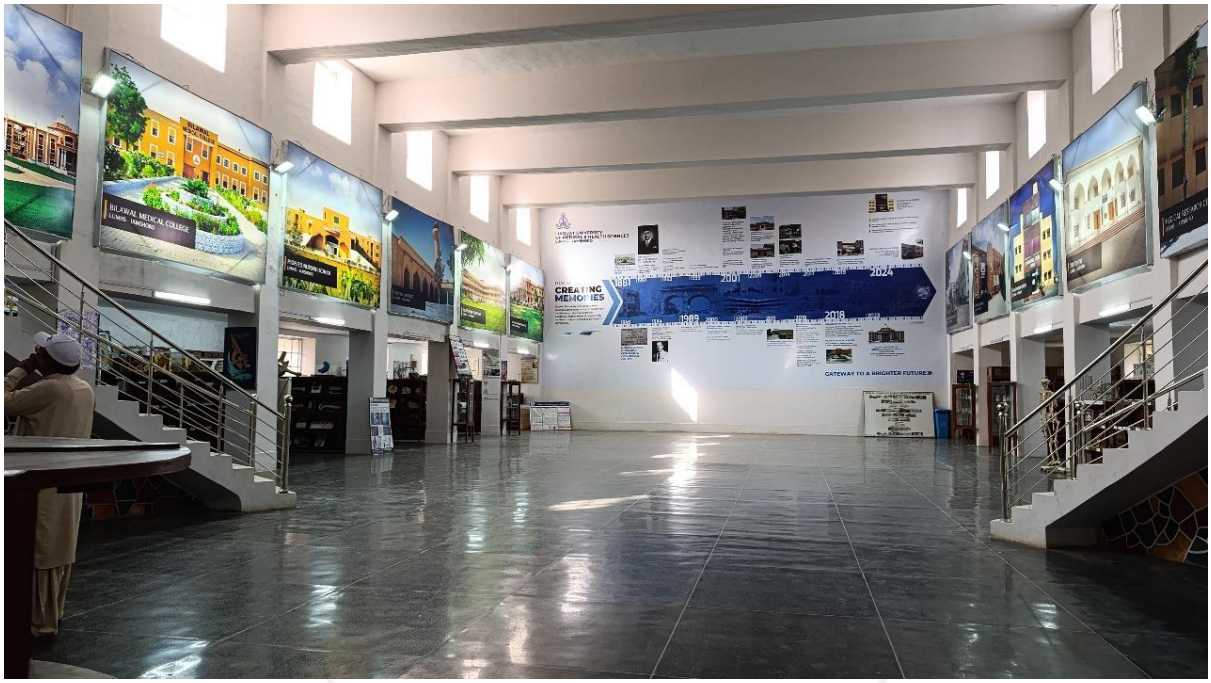
Examination center







Museum


BILAWAL MEDICAL COLLEGE
LUMHS - JAMSHORO
CREATING MEMORIES
1881
2001
2024
1989
2018
GATEWAY TO A BRIGHTER FUTURE

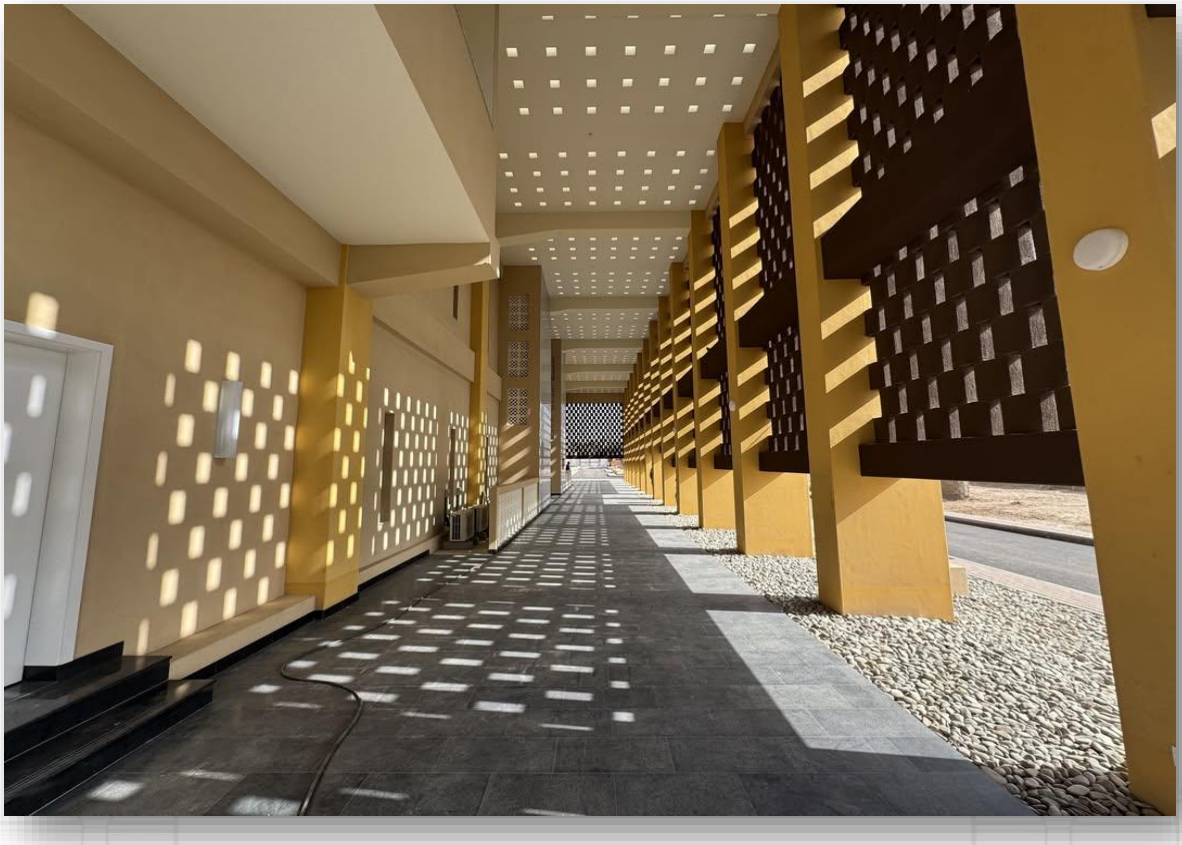

1881
2001
2024
1989
2018
GATEWAY TO A BRIGHTER FUTURE
LIAQUAT MEDICAL C
ACADEMIC BUILDING
LMC - JAMSHORO



LUMHS is adopting green building principles in both new constructions and renovation projects. The University is committed to gradually enhancing the environmental performance of its infrastructure in line with modern sustainability standards.

Efforts are also being made to ensure that future infrastructure development aligns with eco-friendly construction practices, including energy-efficient design, improved resource utilization, and environmentally responsible planning. These initiatives reflect the University's long-term commitment to sustainable campus development.

Through these continuous improvements, LUMHS is working toward developing a more energy-efficient, environmentally responsible, and sustainable built environment that supports academic excellence, healthcare delivery, and overall institutional growth.



Day-Light System







Memorandum of Understanding (MoU) Between LUMHS and the Association for Biorisk Management – Pakistan

Introduction and Institutional Significance

Liaquat University of Medical & Health Sciences (LUMHS) strengthened its commitment to health security, laboratory safety, and responsible scientific practices through the signing of a

Memorandum of Understanding (MoU) with the Association for Biorisk Management (ABM) – Pakistan on 13 February 2025. This collaboration provides a framework for institutional cooperation in promoting biosafety, biosecurity, and effective biorisk management within healthcare, academic, and research environments.

The partnership reflects the importance of establishing safe laboratory practices, strengthening institutional capacity, and promoting awareness of biological risks associated with laboratory activities, clinical procedures, and biomedical research. It also highlights LUMHS's commitment to maintaining a safe and responsible research environment through the promotion of internationally recognized principles of biosafety and biosecurity.

Key Areas of Collaboration

The MoU provides an opportunity to strengthen institutional capacity in the following areas:

- Biosafety and Biosecurity: Promoting safe handling, storage, transportation, and disposal of biological materials.
- Biorisk Management: Strengthening awareness and institutional approaches to identifying, assessing, and managing biological risks.
- Capacity Building: Encouraging training programmes, workshops, seminars, and professional development activities for faculty, researchers, laboratory personnel, and healthcare professionals.
- Laboratory Safety: Promoting good laboratory practices and safety standards in biomedical and research laboratories.
- Research and Knowledge Exchange: Facilitating the exchange of scientific knowledge, technical expertise, and best practices in biosafety and biosecurity.
- Institutional Preparedness: Supporting awareness and preparedness for biological hazards and laboratory-associated risks.

Overall Institutional Impact

Through this partnership, LUMHS reinforces its commitment to responsible research, laboratory safety, institutional capacity development, and the protection of healthcare professionals, researchers, students, and the wider community. The collaboration reflects the University's broader vision of strengthening health security and fostering a culture of safety, accountability, and scientific excellence.





LIAQUAT UNIVERSITY
OF MEDICAL & HEALTH SCIENCES
JAMSHORO



OVERALL REPORT ON

SUSTAINABLE DEVELOPMENT GOAL NO.9