**Project title: Strengthening Capacity of Higher Engineering Education for Sustainable Buildings (HEESeB)**

Jigme Namgyel Engineering College in collaboration with Innsbruck University, Austria has been awarded APPEAR (Austrian Partnership Programme in Higher Education and Research for Development) project in its ninth call for Academic partnership. APPEAR is a programme of the Austrian Development Cooperation (ADC) with the aim to implement its strategy for support of higher education and research for development on an academic institutional level in the ADC’s priority countries and key regions European Union Grant (Erasmus+) for a project titled *“Strengthening problem-based learning in South Asian Universities” (PBL South Asia)*. The project is being coordinated by JNEC.

Partners: Jigme Namgyel Engineering College (JNEC-RUB), Royal University of Bhutan, BHUTAN and University of Innsbruck (UBIK), AUSTRIA

Project Duration: 1st February 2023 – 31st January 2026

***Project objectives:***

(i)develop new academic programme on timber engineering for energy efficient buildings leading to an award of “Certificate in Timber Engineering for Energy Efficient Buildings” including associated laboratory;

(ii)develop two new courses at JNEC: Gender, equity and diversity sensitive science, technology, engineering and mathematics (STEM); Building modelling and simulation, and HVAC;

(iii)Enhance teaching and research capacity of JNEC;

(iv)Improve Instructional Support Services at JNEC;

(v) Internationalise UIBK.

***About the partners***

**Jigme Namgyel Engineering College** (JNEC) is one of the constituent colleges of the Royal University of Bhutan (RUB) located in Dewathang. The College started with the infrastructure development in 1974 coinciding with the 3rd Five Year Development Plan of the country and offering Diploma programmes in Civil, Electrical and Mechanical Engineering. The College currently offers ten academic programmes; seven Diploma and three Bachelor of Engineering. The College continues to explore, plan and offer academic programmes based on the socio‐economic needs of the country. As a premier college, several works are also being carried out to support community development. The college has been accredited by the Bhutan Accreditation Council and has been awarded Grade – A.

**University of Innsbruck** has in totals 28000 students and 16 faculties. The Institute for Structural Engineering and Material Sciences belongs to the faculty of Engineering Sciences. It consists of 6 Units of which the Units Energy Efficient Buildings and Timber Engineering are taking part in the project. The Unit of Energy Efficient Buildings (EEB) with combines two directions. Building physics deals on the one hand with thermal and moisture transport as well as acoustics of building construction, natural and artificial lighting. Additionally, the topics of HVAC (Heating, Ventilation & Air Conditioning) systems, renewable energy integration (solar, biomass, heat pumps), efficient energy systems for buildings and city quarters as well as spatial energy planning are covered. The core competence of the Unit of Timber Engineering is practice‐oriented research in the field of timber engineering. The researchers at the Unit of Timber Engineering are trained and experienced structural engineers or architects, conducting basic and applied research on wood as a building material, new wood products and state‐of‐the‐art fastener technology. The Unit of Timber Engineering has excellent possibilities to produce high‐quality specimens for experimental research with state‐of‐the‐art CNC technology. It also has access to testing facilities to realize experiments

for multiple scales of basic and applied timber engineering research. An additional research focus is sound and fire protection. The Department of Subject‐Specific Education unites the subject‐specific education of future teachers. The section Science, Geography, Computer Science, and Mathematics Education will be involved in this project for the STEM education training. UIBK was active in the following projects in North‐South cooperation: HEBA: High level rEnewabBle and energy efficiency mAster courses; EGREEN–Development of Environmental Engineering and injection of climate change concept for Undergraduate curriculum :EU experience for Jordan & Syria; CIMCEB: Curricula Development of Interdisciplinary Master Courses in Energy Efficient Building Design in Nepal & Bhutan; Master programmes on Renewable Energy and Energy Efficiency in Buildings in Central Asia & Russia; Development and implementation of a Master Course "Energy Management" in three Libyan Universities; MAPEC Curriculum development for Master Program of Environmental engineering and Climate change; Sustainable comfort through building optimization and solar cooling in India.

**Project Members:**

**JNEC**

1. Dr Tshewang Lhendup – Project Adviser
2. Mr Samten Lhendup – Project Manager/Coordinator
3. Mr Rigden Yoezer Tenzin – Project Member/Secretary
4. Ms Wangmo – Member
5. Mr Lobzang Dorji – Member
6. Ms Thinley Wangmo – Member
7. Mr Phurba Tamang – Member
8. Ms Yeshey Dema – Project Accountant

**UIBK**

1. Prof. Wolfgang Streicher – Partner Coordinator
2. Prof. Suzanne Kapelari – Member
3. Prof. Anton Kraler – Member
4. Prof. Roland Maderebner – Member
5. Dr Martin Hauer - Member