About ACTIVE

The ICT Applications for sustaInable enVironmental protEction (ACTIVE) project is a unique initiative aimed at bridging the gap between ICT engineering and environmental sciences in Pakistan. The project is centered around capacity building and interdisciplinary training to leverage ICT for addressing pressing environmental and climatic challenges that urban and rural areas face in Pakistan. By collaborating with partner universities located across the country, we are uniquely positioned to address the diverse environmental concerns specific to each region.

Why ACTIVE?

The ACTIVE project addresses a critical need in today's education and industry - the convergence of ICT and environmental sciences. While many programs focus on ICT engineering or environmental sciences, they often operate in silos, limiting the scope and effectiveness of their solutions. ACTIVE seeks to integrate these areas, training ICT engineers with a strong understanding of environmental science to create more impactful and sustainable solutions for environmental and climatic issues.

Project Objectives

Our primary objective is to cultivate highly qualified ICT engineers who possess in-depth knowledge of environmental science. This will be accomplished through:

- Capacity-building activities to enhance ICT engineers' understanding of environmental issues.
- Establishing a master's degree and expert courses on advanced technologies like machine learning, artificial intelligence, remote sensing, IoT and sensor networks, wireless communication, and embedded systems, applied to environmental issues and climate change.
- Creating four research centers focusing on local problems, providing practical training and contributing to environmental challenge mitigation.

Expected Results

We anticipate several outcomes from the ACTIVE project:

- The emergence of a new cadre of ICT engineers equipped with knowledge of environmental science, ready to design and implement innovative solutions for environmental challenges.
- An expanded curriculum across our partner universities, featuring advanced courses that intersect ICT and environmental sciences.

- The establishment of research centers, acting as hubs for practical training and research on local environmental issues. These centers will play a pivotal role in formulating localized solutions to mitigate environmental challenges.
- An increased use of advanced ICT in environmental management across Pakistan, leading to more effective and sustainable solutions.

Project Relevance with SDGs

- Pakistan's government launched a National Sustainable Development Goals (SDGs) Framework envisaging a national strategy to prioritize SDGs in Pakistan.

- One of the key aspects of this initiative is the action on environmental protection and climate change.

- ICT AppliCaTions for sustaInable enVironmental protEction (ACTIVE) project is focused on

  - Capacity building for mitigating the environmental and climatic issues

  - Modernization of governance and management of HEIs

  - Strengthening of relations between higher education and the wider economic and social environment

  - The research theme and topic under the project will directly linked to the SDGs such as; SDG goal 2, SDG goal 1, SDG goal 6 , SDG goal 11, and SDG goal 3.

The specific objectives are aligned with Target 13.3 of SDG 13 i.e. Climate Action, which says, "Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning". It is followed by Target 13.b which says "Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities".