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U.S.-Pakistan

Centers for Advanced Studies in Water



Mehran University of Engineering & Technology, Jamshoro

Major Activities & Achievements



Introduction

U.S.-Pakistan Center for Advanced Studies in Water (USPCAS-W) has been established at Mehran University of Engineering and Technology (MUET) Jamshoro with financial support of United States Agency for International Development (USAID) Pakistan under the Cooperative Agreement signed with USAID on December 12, 2014, for five years, while the University of Utah, USA is providing technical assistance to MUET in strengthening the Center's professional and institutional capacities. The achievements made and the targets achieved by the Center in a short span of two years are highlighted here:



Center's Governance

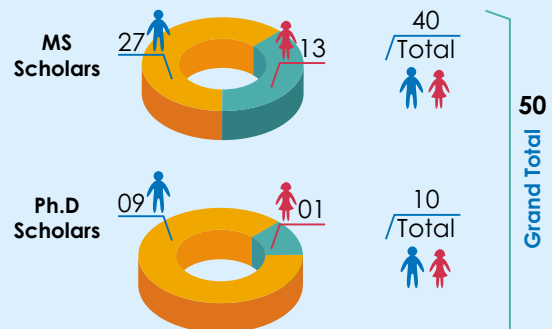
Overall, the Center is governed through the Board of Governors and benefits from the advisory role of the Senior Advisory Board (University of Utah, USA), while smooth management of the Center is ensured through the support of various committees.

- ☐ Project Management Unit
- ☐ Research Grants Management Committee
- ☐ Students Research Grant Committee
- ☐ Gender Equity Committee
- ☐ Admission Committee
- ☐ Procurement Committee
- ☐ Finance Committee

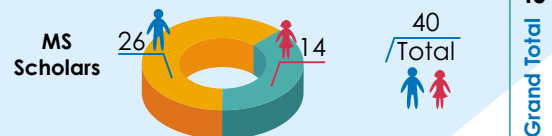


Student Enrollment

1st Batch Session 2015



2nd Batch Session 2016



Academic Program

The Center has developed four market oriented MS and PhD degree programs in water related fields which include:

- ☐ Hydraulics, Irrigation and Drainage
- ☐ Integrated Water Resources Management
- ☐ Environmental Engineering
- ☐ Water, Sanitation & Health Sciences

Partnering Universities:



THE
UNIVERSITY
OF UTAH



MEHRAN UNIVERSITY
of Engineering & Technology
Jamshoro, Pakistan



Curriculum Reform

Although 32 courses have been developed with the support of partner universities of USA: University of Utah, Colorado State University, University of Nevada, Los Vegas and City University of New York, the curriculum reform will

remain as a continuing process for tailoring it to market needs. Following activities were undertaken for the curriculum reform:

- ☐ Twinning Approach Adopted
- ☐ Faculty Mentoring
- ☐ Video recording
- ☐ Lecturer sharing



Applied Research

The goal of Center's research program is to stimulate competitive and innovative applied research program that is multi-disciplinary in nature and developed within the broader context of the water-development nexus to support the achievement of sustainable development goal on water. The Center primarily focuses on the following research themes:

- ☐ Overcoming water scarcity,
- ☐ Developing and maintaining water infrastructure,
- ☐ Improving water quality,
- ☐ Improving water use efficiency and agricultural productivity
- ☐ Enhancing access to drinking water and sanitation
- ☐ Bridging disparities in access and coverage,
- ☐ Reversing groundwater depletion,
- ☐ Reclaiming degraded lands,
- ☐ Strengthening water governance
- ☐ Improving performance of water utilities,
- ☐ Protecting water ecosystems.

In order to focus on the above thematic areas, the Center has constituted four research groups to embark on the water research agenda.

- ☐ Water Governance and Sustainable Development
- ☐ Clean Water Infrastructure and

Technologies

- ☐ Water Informatics and Decision Support
- ☐ Sustainable Agriculture Water Management

Research Projects awarded by the Center

- ☐ Six research projects awarded in the year 2016, each award up to Rs. 3 million.
- ☐ 24 research proposals are in process for the grant awards

Projects Worth Rs. 56 million Granted by Other Funding Agencies to the Center

- ☐ Diffusion and Adoption through Partnerships and Action of the best Watershed Rehabilitation and Irrigation Practices and Technologies to help Rural Farmers – agreement signed with International Center for Agricultural Research in the Dry Areas (ICARDA)
- ☐ Capacity Building of Sindh Irrigation Department's Officials – agreement signed with Government of Sindh (GoS)
- ☐ Efficient Participatory Irrigation Institutions to Support Productive and Sustainable Agriculture in South Asia – agreement signed with Australian Centre for International Agricultural Research (ACIAR)
- ☐ Improving Ground Water Management and Farming Livelihoods in Pakistan-agreement signed with Australian Centre for International Agricultural Research (ACIAR)



Flagship Projects

USPCAS-W has initiated three flagship projects:

- ❑ Pakistan Water Development Report
- ❑ MUET Clean Water Project
- ❑ Indus River Basin Model: Decision Support System



National Water Research Network

National Water Research Network (NWRN) of academia and water experts has been established with the following objectives:

- ❑ To serve as a platform for developing shared understanding of water sector agenda
- ❑ Supporting the achievement of water Sustainable Development Goal (SDG)
- ❑ Sharing of knowledge and best practices for capacity building of water sector professionals

A Steering Committee has been constituted to navigate the network, whereas, the Center will serve as Secretariat of the network. Eventually, this network will pave the way to form the broader network called Pakistan Water Sustainability Network (PWSN).



Seminars & Workshops

In order to explore the research ideas and best practices, the seminars and workshops are the key approaches, where the experts and stakeholders are invited. The Center has a robust plan for graduate seminars, in this regard, 17 graduate seminars were organized for the students. Moreover, following national, international workshops, executive seminars and consultative meetings were conducted.

- ❑ Seminar on Strengthening Research-Policy Interface for Improving Water Management in Balochistan, Quetta, Balochistan.

- ❑ 4th International Conference on Energy, Environment and Sustainable Development 2016, MUET Jamshoro.
- ❑ International Workshop on Entrepreneurship, Technology and Institutional Sustainability in Higher Academia, Karachi.
- ❑ National Consultative Workshop on Developing Water Research Agenda in Pakistan, Islamabad.
- ❑ Executive Seminar on Achieving Water Sustainable Development Goal in Pakistan: Challenges and Opportunities, Karachi.
- ❑ 1st Consultative Meeting of National Water Research Network, MUET Jamshoro
- ❑ Executive Seminar on Water Governance of Pakistan, Karachi.
- ❑ Consultative Meeting of Water Experts on Water Resources Challenges in Pakistan, MUET Jamshoro: National Water Research Network launched.



Capacity Building Trainings

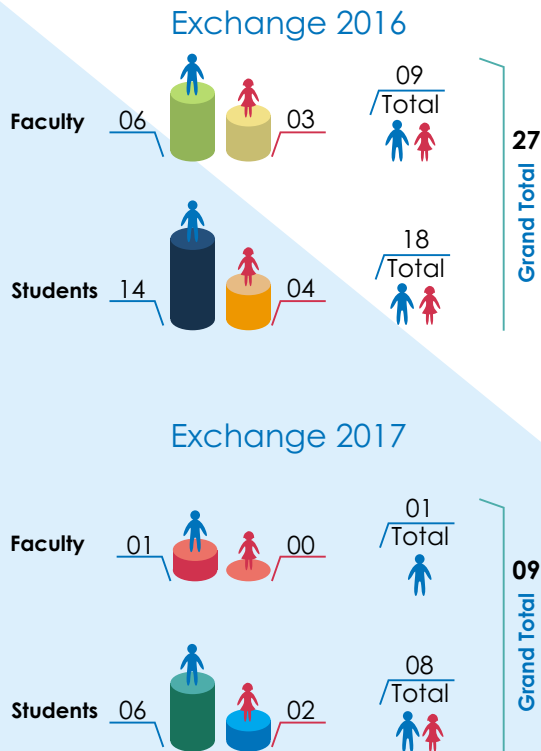
The Center is broadening perspectives and enhancing the capability of water professionals in Pakistan. The project has established USPCASW, MUET as the hub for international exchanges and training on water in the country. The central element of the exchanges and training program is Peer Teacher Partnering (PTP) program to link USPCAS-W, MUET to USPCAS-W, University of Utah (UU). Every year 2-3 planned visits of UU Mission comprising of academia and experts from partner universities in the USA scheduled for the Center to conduct following trainings.

- ❑ Effective Teaching Workshops
- ❑ Curriculum Streaming
- ❑ Research Group Meetings
- ❑ Research Coordination Workshops
- ❑ Writing Boot Camps
- ❑ Faculty-Students Mentoring
- ❑ Students Workshops



Faculty- Student Exchange

The Center has framed an excellent exchange program for faculty and students at partner universities at USA.



Partnership

USPCASW has a firm belief in teamwork and partnering for joint venture research in the field of water. In this connection, USPCAS-W has signed six Memorandum of Understandings (MoUs) with following organizations:

- ☐ The University of Utah (UU), USA
- ☐ Water and Power Development Authority (WAPDA)
- ☐ Pakistan Council of Research in Water Resources (PCRWR)
- ☐ Sindh Agriculture University (SAU) Tandojam
- ☐ Sindh Irrigation & Drainage Authority (SIDA)
- ☐ Irrigation Department, Government of Sindh (GoS)



Research Facilities

The research without state-of-the-art laboratories is not possible. Therefore, the Center focuses on fully modern equipped labs, consequently the following four labs have been established. While, other two more labs are under process of the establishment.

- ☐ GIS & Remote Sensing Lab
- ☐ Computer Software Lab
- ☐ Soil and Water Lab
- ☐ Water and Waste water Lab



USPCAS-W New Building

The new state-of-the-art building of the Center is under construction which is anticipated to be completed by end of February, 2017. The main features of the building includes:

- ☐ Six modern equipped research laboratories
- ☐ Six classrooms
- ☐ Video Conference room
- ☐ State-of-art Auditorium
- ☐ Separate facilities for handicapped and women



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