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Sindh Development Dialogue 2018

"Contextualising the Past - Envisaging the Future"

Tuesday; March 13, 2018



MEHRAN UNIVERSITY
of Engineering & Technology
Jamshoro, Pakistan



THE UNIVERSITY
OF UTAH

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MEHRAN UNIVERSITY
of Engineering & Technology
Jamshoro, Sindh, Pakistan



Sindh Development Dialogue 2018

Contextualizing the Past – Envisaging the Future



Sindh Development Dialogue 2018 on "Contextualizing the Past – Envisaging the Future" was held at USPCASW on March 13, 2018. The event was organized by the Center in collaboration with Sindh Agricultural Forestry Workers and Coordinating Organization (SAFWCO) and the Center for Social Change (CSC). The keynote speakers were Dr. Ishrat Hussain, former Governor to State Bank of Pakistan, Dr. Kaiser Bengali, eminent economist, Dr. Mohammad Aslam Uqaili, Vice Chancellor MUET, Dr. Rajab Ali Memon, former Vice Chancellor Sindh Agriculture University, Mr. Abrar Kazi, water expert, Mr. Shahab Usto, Analyst and Lawyer, Dr. Bakhshal Lashari, Project Director USPCASW, Mr. Zulfiqar Halepoto, Executive Director CSC and Mr. Suleman G. Abro, Founder SAFWCO. The speakers at the dialogue highlighted the need for structural reforms in the province and establishment of at least two metropolitan centers that would compete with Karachi to have balanced development in Sindh.

Welcoming the participants, Dr. Mohammad Aslam Uqaili said that the universities are working beyond the traditional scope of academic and research activities. He emphasized that the academia has not only to impart the quality education but they have also to seek a sustainable solution to the problems of respective communities based on their applied research activities. He said that around 100 research study projects initiated by

MUET Water Center are underway which will ultimately benefit the community.

Dr. Ishrat Hussain delivering a keynote speech said that improving governance and institutional capability of the provincial and district governments are prerequisites for the development of Sindh. He added these activities should be backed by transparency, rule of law and robust right to freedom of information. Dr. Hussain shared his six-pillar strategy for development, which consisted of devolving power to local government (LG), enhancing governance capacity of LG bodies, establishing strong monitoring and evaluation system, forming public service commission at district level, uplifting rural females and increasing irrigation water productivity. He recommended that female education, employment, and entrepreneurship in rural areas should be subsidized.

Dr. Kaiser Bengali chaired the plenary session on Policy Options for Sindh and spoke about 'Constraints to Development of Sindh – Critical Review of Institutional Framework and Dynamics of Political Economy'. He viewed that the process of development, in its holistic sense, can be kick-started in the way ripples are created in water if a pebble is thrown in a pond. He likened Sindh as Pakistan's OPEC (Organization of Petroleum Exporting Countries) and said that with 90% of coal deposits and 72% of gas production, could be

better anticipated for the development of Sindh. He advocated connectivity of roads to create two metropolitan centers near Hyderabad and Sukkur, which would compete with Karachi to ensure balanced development in Sindh. Defending improvement in water efficiency, he said that its use would have to be connected with modern farm practices. He opposed sugarcane cultivation in Sindh as it caused water-logging. He lauded Sindh government's efforts on Thar Coal Project which he said would be producing 20,000MW of electricity without losing the foreign exchange.

Advocate Shahab Usto talked about water analysis reports compiled in the backdrop of his petition and formation of a judicial commission on water and sanitation in Sindh. Speaking at an open forum on water rights, laws and citizen's movements and responsibilities, he said that the commission collected 460 water



samples from across Sindh and found 91pc water in Karachi and 87pc in Hyderabad unsafe for drinking. He urged the academia to lead the process of development through research.

Mr. Abrar Qazi speaking on 'Water security of Sindh – national, regional and global connections and way forward' suggested Punjab for to reciprocate with Sindh over the sharing of river water to build trust and help agricultural economies of the two provinces to grow further.

He suggested that the domestic sewage and saline water of Right Bank Outfall

Drain (RBOD) and Left Bank Outfall Drain should (LBOD) be treated and used for irrigation. Mr. Zulfiqar Halepoto said that development ideology ought to switch from being 'security-centric' to 'people-centric.' Dr. Rajab Ali Memon delivered a talk on 'Connecting Development with Land and People'.

Dr. Bakhshal Lashari and

Dr. Fateh Mari moderated the Question-Answer

session while Mr. Suleman G. Abro presented the vote of thanks at the end of the event. Around 200 participants belonging to the water sector, industries, planning and development, academia and students participated in the dialogue.



National Seminar on Shrinking Indus Delta: Current Status and Way Forward



The Center organized a National Seminar on 'Shrinking Indus Delta: Current Status and Way Forward' to share the results of the research study conducted by Prof. Dr. Altaf Ali Siyal, sectional head of Integrated Water Resources Management (IWRM) of USPCAS-W MUET on March 02, 2018. The research project on Indus delta was funded by the Center.

Speaking in the inaugural session, Dr. Mohammad Aslam Uqaili, Vice Chancellor MUET said that availability of fresh water is declining day by day due to the variety of reasons. Dr. Uqaili said that the communities living in the lower riparian of the rivers have right for a due share of water recognized everywhere in the world. He said that Indus River known as Sindhu is because most of the rivers are known by the area of lower riparian. Dr. Uqaili noted that due to little and sometimes zero flow in the sea causes sea intrusion which ultimately affects the livelihood of the communities of the respective area. He stressed to ensure the environmental flow of water to Indus Delta to save the climate and ecosystem and the people associated with it.

A detailed technical presentation was given by Prof. Dr. Altaf Ali Siyal, Principal Investigator of this study. He said that Indus Delta is fifth largest and one of the most vulnerable deltas of the world, designed as Ramsar wetland and supports seventh largest mangrove forest system in the world. Dr. Siyal said that geomorphological, environmental

and socio-economic characteristics of the Indus River Delta are under constant threat due to coastal erosion and resulting dynamics in the shoreline position. He added that left side of the river Indus at Sujawal District is more degraded and more vulnerable to coastal erosion compared to the right side of the river around Thatta District. While distinguishing the various changes in the existing data, he said that now the delta existed only on 1070 square kilometer whereas it was 12900 square kilometers in 1833 A.D.

He said that Indus river flow to the delta has decreased by 80% from 1935 to 2017 and resultantly 80% of the entire delta have salt-affected soils. He said water bodies in the whole delta have doubled in last 27 years and 80% of the natural surface water bodies (lakes) had saline water unfit for drinking purpose. He warned that if due to Tsunami or other natural reason seawater level rises about 5 m, more than 50% of Delta will be flooded.

He said that rapid seawater intrusion had degraded the Indus Delta which has affected the community very severely and drinkable water is available to only 11 percent of the communities of the Delta.

At the end he made some recommendations such as the construction of coastal highway at the periphery of tidal floodplains for access of community to the market and tourism. He also suggested the restoration and revival of the relic river channels, Ochito and Old Pinyari, as to assure irrigation water

flow at the tail end of irrigation canals off-taking from Kotri Barrage especially Pinyari, Phulleli and KB Feeder. He submitted for the revival of natural lakes in the delta by adding fresh water during the monsoon period, encourage biosaline agriculture with the cultivation of value-added halophytes in the tidal floodplains, etc. He demanded to ensure better livelihood to coastal communities and to contain seawater intrusion.

On this occasion, Prof. Dr. Bakhshal Khan Lashari, Project Director USPCAS-W MUET said that the Center is striving hard for the sustainable solutions of water-related issues of the country. He informed that research agenda of the center is drawn through mutual consultations and technical support of the University of Utah, partnering university of the center. The center is pursuing more than 100 applied research projects, which also include those assigned to MS and Ph.D. students.

At the end of the seminar, Prof. Dr. Kamran Ansari moderated the question-answer session and Prof. Dr. Rasool Bux Mahar, Deputy Director presented the vote of thanks.

The participants included Pro-Vice Chancellor MUET Prof. Dr. Tauha Hussain Ali, Pro Vice-Chancellor Sindh University Thatta Campus, Dr. Sarfraz Hussain Solangi, Additional Secretary Sindh's Livestock and Fisheries Department Khawar Parvez Awan, MUET Deans and communities from the Indus Delta, faculty and students of the Center.



World Water Day Celebrated at USPCAS-W MUET



The USPCAS-W MUET and the Institute of Environment Engineering and Management (IEEM) MUET jointly organized the World Water Day at the Center which invited large audience including students, faculty, researchers, representatives from water related institutions, NGOs, civil society and Sindh TV news team. Main features of the event included a documentary "Story of the River Indus", competitive speech, poster and video presentations by students on the theme 'Nature for Water', a panel discussion by water experts and an awareness walk. Speaking on the occasion, Prof. Dr. Khan Muhammad Brohi, MUET Dean Faculty of Architecture and Civil Engineering said that water is life and livelihood for all and sundry. "we should take measures for saving this precious natural commodity", he added. Dr. Brohi said that the celebration of world water day would engage students in different activities to raise awareness regarding the judicious use of water and better sanitation.

On this occasion, Prof. Dr. Rasool Bux Mahar, Deputy Director (Academics and Research) of the Center said that world water day is meant to bring awareness and to sensitize the public regarding the issues related to water. He said that an international day to celebrate freshwater was recommended at the 1992 United

Nations (UN) Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil and consequently the UN General Assembly responded by designating 22 March 1993 as the first World Water Day. He said that this year the theme of the day is the Nature of Water which explores nature-based solutions (NBS) to the water challenges faced by the world in the 21st Century. He further highlighted



NBS said that planting trees to replenish forests, reconnecting rivers to floodplains and restoring wetlands, is a sustainable and cost-effective way to help rebalance the water cycle, mitigate the effects of climate change and improve human health and livelihoods with ultimate objective of meeting the Sustainable Development Goal 6.

Speaking on the occasion, Engr. Fayaz Naich, MUET Alumnus and renowned anchor of Sindh TV News said that research on the rivers and

civilization is of the great importance in this era of technological advancement. He appreciated the efforts of the USPCAS-W as a center of excellence in water sector in Pakistan. On this occasion, the documentary on "Story of the Indus Valley" produced and directed by Dr. Abdul Karim Rajper, the Chief Executive Officer (CEO) Sindh Television Network was presented. This was followed by the panel discussion, the panelists being Dr. Mohammad Munir Babar, Dr. Rasool Bux Mahar, Dr. Altaf Ali Siyal, Dr. Kamran Ansari and Mr. Fayaz Naich. The panelists responded to different questions asked by the participants of the event. An awareness walk, student speeches, and poster and documentary competitions added value to the event as the students got the opportunity to use their talent and express their potential in addressing the water issues. Mr. Faris Bhatti, Mr. Maaz Saleem, Ms. Sanja, Mr. Waqas Inam, Mr. Mumtaz Ali Nizamani, Mr. Talal Naseer, Mr. Zain-ul-Abdin Khatti got the positions in the different competitions held in the world water day celebration.

The Dean, Deputy Director, and other faculty members presented the shields to the position holder students and also Center's souvenirs presented to Sindh TV News team.

Building Partnerships: Memorandum of Understandings (MoUs) signed

MoU Signed with WWF-Pakistan

The US-Pakistan Centre for Advanced Studies in Water (USPCAS-W), Mehran University of Engineering and Technology Jamshoro and the World Wide Fund for Nature (WWF)-Pakistan signed a Memorandum of Understanding (MoU) to enhance collaboration on freshwater-related initiatives in Pakistan.

Prof. Dr. Bakhshal Khan Lashari, Project Director USPCAS-W MUET and Dr. Babar Khan, Regional Head (Sindh and Balochistan) WWF-Pakistan signed the agreement at the Center on January 22, 2018.

Dr. Lashari shared that the Center is a state-of-the-art applied research facility established with the support United States Agency for International Development (USAID) and is technically supported by the University of Utah, USA. Among other things, the Centre focuses on developing sustainable solutions to overcome freshwater management challenges. The MoU between WWF-Pakistan and the Center, he added,



would bring opportunities to develop joint research studies and projects that can help to address the issues of freshwater and sustainable solutions better.

Dr. Babar Khan, in his remarks, appreciated the efforts of the Center in promoting applied research on water sector related issues. He expressed that the effects of climate change are evident on the water resources of the country leading towards the extreme weather events such as flood and droughts. The Indus River, he added, had lost its glory as an outcome to this. Our precious wetlands such as Manchar Lake and other Ramsar sites were deteriorating

due to multiple factors and required immediate restoration and rehabilitation to sustain their associated ecosystem services, he added. He urged that the environmental issues of the region could only be resolved through implementation of time-bound plan of actions.

Dr. Rasool Bux Mahar, Deputy Director (Academics & Research) USPCAS-W highlighted that Manchar Lake is in dire need of rehabilitation to its real shape. The Ceremony was attended by the Center's faculty and the management and the team of WWF-Pakistan.

MoU signed with Oxfam Pakistan



The US-Pakistan Centre for Advanced Studies in Water (USPCAS-W), Mehran University of Engineering and Technology Jamshoro and Oxfam Pakistan signed a Memorandum of Understanding (MoU) on a strategic alliance to undertake research and other activities on water-related themes. Mr. Qazilbash, Country Director

Oxfam and Prof. Dr. Bakhshal Lashari, Project Director USPCAS-W MUET signed the MoU. The three-year MoU aims to plan and undertake research activities covering different aspects of water resources management, water governance, policy and laws, advocacy on water-related issues, water and climate change, and participation of women and

marginalized groups in the decision making process related to water projects. The *Strengthening of Participatory Organizations (SPO) and Association for Water, Applied Education & Renewable Energy (AWARE)*, are the partner organizations of Oxfam which will coordinate with the USPCAS-W team for organizing a joint event related to water.

The MoU provides necessary base to collaborate in developing and implementing joint advocacy and research activities leading to sustainable development and management of water resources in Pakistan. The officials of Oxfam, SPO, AWARE and faculty of USPCAS-W MUET witnessed the MoU ceremony held at MUET Water Center.



A Delegation of Government Officials visits MUET Water Center & its Modern Laboratories

A delegation comprising of Engr. Saindard Khan Solangi, Member Sindh Public Service Commission (SPSC), Syed Junaid Ahmed Zaidi, Additional Secretary to Governor Sindh, Prof. Dr. Mukhtiar Ali Unar, Pro-Vice Chancellor Mehran University of Engineering and Technology (MUET) Shaheed Zulfiqar Ali Bhutto (SZAB) Campus Khairpur and led by Prof. Dr. Muhammad Aslam Uqaili, Vice Chancellor MUET visited the Center and its facilities, including the modern laboratories on March 19, 2018.

The delegation appreciated the academic and research program of the Center and thanked USAID for financial support in establishing the Center. Engr. Solangi said that the government will be able to formulate better policies of water and environment based on the findings of the research of this center in order provide safe and clean drinking water to the masses and to tackle the environmental issues. Speaking to the delegation Dr. Uqaili said that the MUET Water Center strives hard to find sustainable solutions to the water problems through applied research

as to benefit the community countrywide. Project Director USPCAS-W MUET Prof. Dr. Bakhshal Khan Lashari briefed the delegation about the academic program and research project of the Center, whereas Prof. Dr. Rasool Bux Mahar, Deputy Director (Academics and Research) and Prof. Dr. Altaf Ali Siyal briefed them about the facilities provided by the Center through advanced and modern laboratories to the students and faculty for the research. On this occasion, Dr. Lashari presented USPCAS-W souvenirs to the delegation.



USPCAS-W Participation in Events



1st Sindh Sanitation Conference

USPCAS-W MUET participated as one of the partner organizations for organizing first Sindh Sanitation Conference held on Feb. 8, 2018 at Karachi. The event was organized by the Sindh Local Government Department in collaboration with USAID, HANDS, and WASH sector partners.

Mr. Oghale Oddo, USAID deputy mission director Sindh and Balochistan, Local Government Minister Jam Khan Shoro, Director General (M&E) Local Government Faheem Junejo, Dr. Shaikh Tanveer Ahmed, Chief Executive HANDS Pakistan spoke in the conference.

On this occasion, Dr. Kamran Ansari, Director Internship and Placement USPCAS-W chaired the Plenary Session-II. Closing the session, Dr. Ansari remarked that every government of the time used to spend millions of rupees for the



provision of safe and clean drinking water and better sanitation services in Sindh but unfortunately the money of the taxpayers was not utilized correctly in letter and spirit. He further stressed on evidence-based and applied research in water and sanitation issues of the country and suggested for the proper recommendations and outcomes of the conference to be communicated to the concerned quarters.

Dr. Rasool Bux Mahar, Deputy Director (Academics and Research) of USPCAS-W MUET speaking in the session said that provision of safe

potable drinking water, improved sewerage system and other civic facilities in the province could only be possible by replacing the existing outdated system. He said that the MUET Water Center is preparing skillful human capital for the solution of water and sanitation issues of the country. Dr. Mahar stressed on the awareness and advocacy campaigns to be launched to sensitize the masses for taking sanitation as one of the serious issues.

The Center also placed a stall in the exhibition. Thirty (30) MS Students of Water, Sanitation and Health Sciences (WASH) program of the Center led by the sectional head Dr. Jamil Ahmed Soomro, attended the conference. On this occasion, Patrick Brady, USAID/Pakistan Deputy Director of the Karachi Provincial Office interacted with the WASH Students and shared his views.



1st Sindh Water Expo at Mirpurkhas

The group consisting of 50 USPCAS-W students participated in 1st Sindh Water Expo at Mirpurkhas jointly organized by Research & Development Foundation (RDF), Sindh Agriculture University (SAU) Tandojam, UPCAS-W MUET, Sindh Irrigation Drainage Authority (SIDA), Mirpurkhas District Administration and Laar Humanitarian Development Program (LHDP) in collaboration with Trocaire Pakistan at Sindh Horticulture Research Institute Mirpurkhas. Significant feature of this event was the exhibition where hundreds of stalls were set up by different organizations and institutes. USPCAS-W MUET also set up the stall to display

and distribute the promotional material for outreaching the concerned stakeholders.

Member National Assembly (MNA) Mir Munawar Ali Khan Talpur inaugurated the mega event. He visited different stalls, appreciated valuable products and their manufacturers, and expressed his deep interest in the display made by different companies and institutions. Mr. Talpur also visited USPCAS-W MUET stall and praised the efforts of the Center for seeking sustainable solutions to water issues of Pakistan based on applied research.

The expo was aimed at bringing together academia, industry,

traders, civil society, government departments and farmers at one place to provide comprehensive insight into water use and to share the latest and environment friendly technological innovations. It also provided an opportunity to hundreds of participants, including farmers, students and water practitioners to discuss their issues with experts, companies, service providers and the researchers to learn from and find out safe and sustainable solutions.

Dr. Mohammad Rizwan, Assistant Professor USPCAS-W MUET, Mr. Sahib Khan Bhand, the CMO Expert and Mr. Faizan Memon facilitated the students during their visit to the expo.



Sindh Development Forum 2018

The Center participated in the Sindh Development Forum (SDF) 2018 which was organized by Planning and Development (P&D) Department, Government of Sindh on March 28, at Karachi. Sindh Chief Minister Syed Murad Ali Shah was the chief guest of the event which was attended by 19 country heads representing different international organizations like USAID, World Bank, United Nations and others. Some features of the event were that different sessions on education, health, water and sanitation were organized, besides an exhibition participated by different organizations.

The USPCAS-W set up an stall in the exhibition showcasing the printing and promotional material of the Center, where the USAID Mission Director Jerry Bisson, USAID Program Support Unit Lead Nancy Lowenthal, Chairman P&D Mohammad Waseem, Vice Chancellor MUET Dr. Mohammad Aslam Uqaili, Former Additional Chief Secretary Ghulam Sarwar Khero, Former Secretary Public Health Tameezuddin Khero, UNDP Small Grants Manager

Masood Lohar, GM SIDA Nazeer Essani, PC WSIP Dr. Fateh Mari and other representatives from World Bank, INGOs/NGOs, academia and industry also visited the stall.



Graduate Seminars (Jan-March, 2018)

Organizing the Graduate Seminars is a part of the curriculum and a regular feature at the MUET Water Center. In this quarter, total Six (06) following seminars were held:

Seminar on Climate Change Adoption:

This seminar was given by Mr. Hadi Bux Laghari, a Farm Consultant, on "Voices from the Field: Climate Change Adoption in Local Farmers in Sindh" on February 2, 2018. Mr. Laghari said that the climate change, land degradation, water scarcity and genetic erosion are the most prominent threats to the agriculture sector in Pakistan in general and Sindh in particular. He viewed that farmers' for obtaining maximum yields has led to the use of imported seeds which not only consumed more water, fertilizers, and pesticides but also caused genetic erosion of the soil and land degradation. He stressed on the integrated efforts to adapt to the climate changes efficiently and effectively in the best interests of the economy of the country and prosperity of the people. Mr. Hadi Bux Laghari also shared his field work on different horticulture projects, mainly mangoes, and bananas, in which he worked as a technical manager.



Seminar on Impact of Climate Change on Water Resources:



The resource person Dr. Badar Munir Khan Ghauri, Department Head from National Centre for Remote Sensing & Geo-Informatics, Institute of Space Technology Karachi started with definition of the climate "as the average weather at a given point and time of year, over an extended period typically 30 years".

He said that weather would change a lot from day to day as expected, but the climate is to remain relatively

constant. "If the climate doesn't remain constant, we call it climate change," he added. He opined that increase in the temperature of air and water cause threat and resultantly bleaching of corals. He further said that in Pakistan water tables would continue to fall and the gross per capita water availability would decline. Consequently, Pakistan's agriculture, and consequently economy that

depends mainly on water from glacier melt would be severely affected.

He recommended for taking appropriate measures to control the emissions of greenhouse gasses to minimize the effect of global warming. He also emphasized on necessary steps to recycle domestic and industrial wastewater and enforcement of water conservation plan.

Seminar on Downscaling Water and Sanitation Sustainable Development Goals (SDGs) with Implications for Water Development in Pakistan:

Speaking on the occasion, Sardar Muhammad Tariq, Chief Executive Officer Pakistan Water Partnership (PWP) said that the water is a strategic asset for defense and development for most countries of the world and that Pakistan's dependence on single river system is highly vulnerable. He added that water resource system is considered stressed if it is unable to deliver the necessary water for environmental, social and economic

purposes, and its threshold value is 1700 cubic meter per capita. Sharing the water availability data, he said that Pakistan has surplus water for only 30 days in a year whereas in the remaining 335 days availability is less than its demand. He was of the view

to the national security. He said that Pakistan's water productivity is very low and stressed on efficient water management and formulation of effective federal and provincial water policies. He recommended rainwater harvesting, growing of

platform as a paradigm for economic development with climate and CPEC challenges. He said that water is an integrator of the sustainable development and water can lead the way for most SDGs as a potential paradigm. He said that Sindh poses unique challenges of supply and demand of quality and quantity of water. He was of the view that the climate change is changing our way of thinking. He stressed on proper utilization from CPEC, a window of development opportunity, as to benefit the downtrodden people of Pakistan. He further recommended for reorienting water priorities, preparedness for climate change challenges, and applied research on water.

Before the speakers, the Project Director USPCAS-W Dr. Bakhshal Lashari briefed the participants about the MUET Water Center and its goals and objectives. Dr. Lashari said that the Center is pursuing more than 100 research projects relating to applied research in the water sector of the country. The faculty, students and civil society activists participated in the seminar.



that Pakistan must have 40% storage capacity of water whereas the existing capacity is only 7%. He opined that India's continuous interference with river flows threatens Pakistan water security, as he believed that water security is equal

drought and salt tolerant varieties of crops, and also the adoption of the principle of 3R's which is to reduce, recycle and the reuse of water.

The second speaker of the seminar Dr. Pervaiz Amir, Director PWP delivered his talk on Water led SDG



Seminar on Invest in Future Leaders through Participatory Dialogue and Discussion on 'Grassroots Entrepreneurship & Women Empowerment in Water Sector:



This seminar was organized in collaboration with the Center for Social Change (CSC) and delivered by Ms. Najma Siddiqi, a very well-known social development expert. She said that there are pockets of excellence and ponds of stagnation regarding the development and women empowerment in Pakistan. She added that in the development of the society, the role of a woman could not be ignored as she plays a more critical role in daily life matters as compared to her male counterpart. She maintained that there is a close relationship between

a woman, water, and entrepreneurship, but unfortunately, women were lagging behind for their rights including access to water. Women could be the best entrepreneurs by trying themselves for the economic authority, she added. There were fixed roles for a woman in some societies because of societal compulsion, but the role of a woman can be enhanced in all the sectors of professionalism, she argued. While concluding the seminar, she said that Good Governance is a strategy from down to up, not the vice versa. Mr. Zulfiqar

Halepoto, Water-Environment and Civil Society Activist, and Head of CSC also spoke on occasion and said that a woman in Pakistan has to play the diversified roles for enabling themselves to be successful entrepreneurs as the economic empowerment distinguish the social status in the society. On this occasion, Dr. Bakhshal Khan Lashari, Project Director USPCAS-W introduced the speaker and welcomed the participants in the seminar and also presented the souvenirs to the speaker.

Seminar on Operation and Maintenance Challenges for Irrigation Infrastructure:

Delivering the seminar, Engr. Ghulam Mustafa Ujjan, Environment and Social Development Specialist in Sindh Irrigated Agriculture Productivity Enhancement Project (SIAPEP) said that absence of effective monitoring mechanism in the infrastructure, effective water governance and fair distribution of water were still a big challenge for the irrigation department of Sindh.

Elaborating it further, he said that fixed design, supply based system, inadequate drainage, unfair distribution, low efficiency, unwilling workforce, deferred maintenance, financial constraints, the limited capacity of staff, and law and order situation were major challenges in operation and maintenance the irrigation system in the province. He emphasized on the institutional



reforms in the water sector institutes as to benefit the masses from the bounties of natural resources like water. In the question-answer session of the seminar, Engr. Ujjan endorsed the views shared by the students that better water governance, institutional reforms, women participation in water management are allied with socio-economic, political, and land reforms in the country.



Seminar on Smart Water Grids: Managing Complexity via Ubiquitous Sensing and Modeling Abstractions:

Dr. Abubakr Muhammad, Director, Center for Water Informatics & Technology (WIT), Lahore University of Management Sciences (LUMS) gave a detailed presentation on the topic and said that Water is at the heart of ALL development challenges in Pakistan and that by using artificial intelligence, robotics and other related application of computers, the demand-driven water system could be formed and implemented. While emphasizing on the Imagineering, the term introduced by him, he said that through Imagineering the sustainable solutions to the prevailing water crisis could be sought out. In defining the contextual importance of using smart water grid technology, he said that the managing irrigation networks in the Indus river basin inspire exciting problems with an

essential and unique socio-economic context for Pakistan. He elaborated that river basins, when equipped with smart infrastructures, are complex cyber-physical-social systems with a unique set of Cyber-Physical Systems (CPS) problems and the Internet of Things (IoT) inspired solutions. He also illustrated the Water Policy Social Network, Farmer Social Network, Social Comparison Processes, Real-Time Flow Monitoring and other related. He also shared the documentary which showed how these smart grids are working efficiently. Defining the intelligent water grids in an interview conducted by Prof. Dr. Abdul Latif Qureshi in USPCAS-W Studio, he said that this is Information Communication Technology (ICT) based technology for monitoring different aspects of water including



water quantity and quality. He said through this technology the water-related information can be quickly disseminated timely and adequately, to the end users-farmer. Answering the questions, Dr. Abubakr said this technology is very much cost-effective now and can be used for all levels of canals either the smaller watercourses or more prominent waterways. He further elaborated that water at the roots of plants can be easily monitored through this system by adding more technology like drones. He informed that this technology is being used by the irrigation department of Punjab while in collaboration with MUET Water Center, it can be replicated in Sindh in support of SIDA and Sindh Irrigation Department. On this occasion, Dr. Bakhshal Khan Lashari, Project Director USPCAS-W, introduced the speaker and welcomed the participants in the seminar. In the end, Dr. Lashari also presented the souvenirs of the Center to the Speaker.





Students on Exchange Visit

The second cohort of the Batch 2016 consisting of 22 MS and PhD Scholars of the MUET Water Center departed to the United States on January 15, 2018 on their one-semester exchange visit. In a briefing session held with the departing students, Dr. Bakhshal Lashari said that the exchange visit program is one of the prominent features of the MUET Water Center and that it is fully funded by USAID. Adding further, Dr. Lashari said that the exchange visit would be highly beneficial for students in building their technical capacity and research skills and

suggested them to involve themselves in academic, research, co-curricular and cultural activities during their stay at the University of Utah and the Colorado State University. Dr. Mohammad Aslam Chaudhry, the research professor and Chief of Party at USPCAS-W from the University of Utah shared that the exchange students would be facilitated and supported for their respective fields through the mentoring by the Professors of the host universities. He further said that apart from the formal course, the exchange program also serves as the

great opportunity for networking with other students from different parts of the world.

During their four-month exchange visit, the students would attend specific courses and work on their research projects in co-supervision of their respective professors. The University of Utah is the partner university providing technical assistance for advancing the development and sustainability of the Center. Before this cohort, 46 students and 13 faculty members have availed the exchange scholarship opportunity so far.



Field Visits

Exchange Students Visit High Efficiency Irrigation Systems at Colorado State University USA

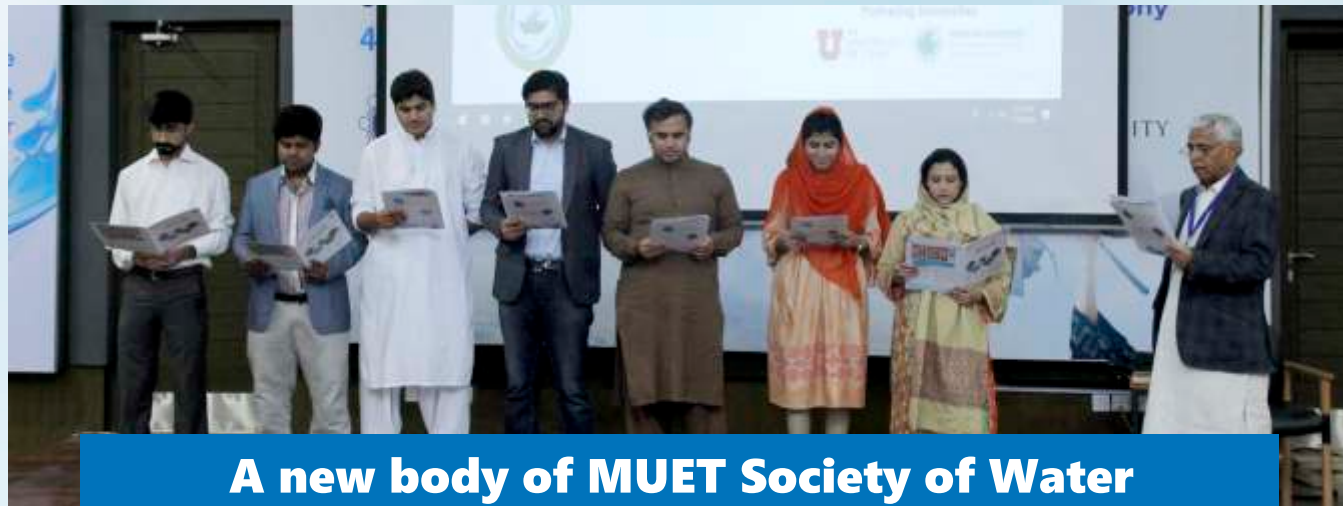
Five USPCAS-W students, while on exchange visit at Colorado State University (CSU) USA, went on field visit at Agricultural Research, Development, and Education Center (ARDEC), CSU. Guided by Dr. Allan Andales, the students Nabeel, Nageena, Nadir, Uroosa, and Aqeel visited and observed the installed center pivot irrigation system controlled by remote sensing. ARDEC serves Colorado State University in facilitating many different agriculture related projects and research activities.



USPCAS-W Students visit Yunus Textile Mills

The MS students of Environmental Engineering (EnvEng) and Water, Sanitation and Health Sciences (WaSH) of 2018 Spring Batch of the Center visited Yunus Textile Mills Limited Karachi as a part of their academic-industry program meant to give exposure to students about industrial processes and issues for joint research undertakings. The students were accompanied and guided by the faculty members Dr. Rizwan Ahmed, Dr. Naveed and Mr. Tanveer Ahmed.





A new body of MUET Society of Water Managers announced

The oath-taking ceremony of new governing body of Society of Water Managers (SWM) for the year 2018-19 was held at USPCAS-W MUET on February 16, 2018. The newly elected body included Mr. Muhammad Arfan as President, Ms. Falak Naz as Vice President, Mr. Muhammad Ali Mangi as General Secretary, Mr. Maaz Saleem as Event Coordinator, Mr. Arslan Mahmood as a Treasurer,

Mr. Tahir Abbas as a Media and Communication Secretary, and Ms. Qanita Tarique as mandatory female member. The oath taking newly elected body was administered by Dr. Bakhshal Lashari, the chief patron of the society. On this occasion, Prof. Engr. Mushtaq Mirani congratulated the newly elected body and also shared his views to enhance the scope of the society. Ms. Rakhshinda

Bano, the patron of the society, Muhammad Arfan, the President, and Mohammad Wajid Ijaz, former president of the society, also spoke at the ceremony. Before taking the oath, the newly elected office bearers introduced themselves and vowed to organize the water-related healthy activities during their tenure throughout the country.



NED University Students visit MUET Water Center

The final year students of the Urban & Infrastructure Engineering Department, NED University of Engineering and Technology Karachi, led by the Department Chairman Prof. Dr. Adnan Qadir, visited the MUET Water Center. The visit of the students was the part of their course "Hydraulic Engineering and Water Resources Management".

The visit provided them an opportunity to understand Center's objectives and commitment to the solution of water issues of the country. Besides, the visit not only enhanced their understanding of the course 'hydraulic engineering' but it also exposed them to other courses viz environmental engineering, integrated water resource

management and WASH, which are being taught to MS and PhD students at the Center.

The delegation also met Dr. Bakhshal Lashari, Project Director USPCAS-W, and Center's faculty members Prof. Dr. Zubair Ahmed, Prof. Dr. Abdul Latif Qureshi, Mr. Waqas Ahmed and others.

Sports Activities



Two-Day Badminton Tournament Organized by the Center

The USPCAS-WMUET organized a two-day badminton tournament at MUET Gymnasium in which 24 teams comprising of students, faculty and staff participated. The team comprising of Mr. Mumtaz Ali Nizamani, and Mr. Mehran Soomro won the championship. The team of Ms. Rakhshinda Bano and Maaz Saleem was declared as Runner while the team comprising of Afaq Ahmad Mayo and Tahir Abbas Magsi was declared on the third position.

In award distribution ceremony, Dr. Rasool Bux Mahar, Deputy Director, Mr. Shahid Panhwar, M&E Specialist, Muhammad Ali, Academic Coordinator and other senior faculty presented trophies to the runner and winner teams.



On this occasion, appreciation shields were presented to the officials of MUET Sports Directorate, and volunteers of the Center namely, Mr. Tahir Ali Shaikh, Mr. Muhammad Shoaib Jamro, Mr. Faris Ahmed Bhatti and Mr. Tahir Abbas Magsi for their support in organizing the event.

One Day Cricket Tournament held



A one-day Cricket Tournament organized by Society of Water Managers (SWM) of USPCAS-W held at MUET Jamshoro. The team of Integrated Water Resources Management (IWRM) won the final match. Dr. Bakhshal Lashari, Project Director USPCAS-W and Dr. Jeff Ullman the Technical Advisor presented Winner Cup to Mr. Maaz Saleem Captain of the winning team.

Mohammad Arfan, president of SWM performed as a referee in the tournament. Total four teams, one from each discipline IWRM, HID, WaSH, and Env.Eng participated in the tournament. Apart from students, faculty and management of the Center also participated in the cricket tournament.



Research Grant Awards

Research Study on Market Relevance of the Center Outputs Commissioned:

The Center has recently completed three years of operations and first crop of graduates has already entered the job market in the public and private sectors. The center has commissioned this research study to assess the relevance and suitability of Center's products (graduates, research, and short-term training programs) to market needs. The high-quality water education being

offered by the Center entails improved curriculum, better teaching, access to global education networks, and continuous faculty and staff development. The applied research component, on the other hand, responds to meeting national commitments to global sustainable development agenda, namely sustainable goal on water as well as other water-related issues and

challenges confronting Pakistan. The study is jointly conceived and funded by the Center and the University of Utah (UU). The study will identify types of jobs along with potential growth areas and program specific markets for USPCAS-W graduates. It will also assess the capacity of the center to respond to the market needs and competitiveness of the center programs with other similar programs.

New Research Proposals:

In response to the call for research proposals, the center received 91 research proposals from different institutions which have been evaluated through technical support of the faculty of the University of Utah. Total 14 proposals have been shortlisted and are being processed

for funding. Some of these proposals involve strong industry-academia collaborative engagement for solving specific water-related industry problem. Besides, couple of client-driven projects as well as jointly (Center and the University of Utah) funded projects are also under

award process. Overall goal of the USPCAS-W Research Program is to stimulate competitive and innovative applied research that is multi-disciplinary and developed within the broader context of the water-development nexus to support the achievement of SDG 6

Welcome to New Team



Mr. Shakil Ahmad Shaikh,
Director
Administration



Mr. Hamid Ali Shaikh,
Exchange &
Scholarship
Coordinator



Mr. Aftab Ahmed Khoso,
Assistant
Manager
Finance



Mr. Babar Naeem,
GIS Specialist



Mr. Raja Sunil Kumar Oad,
Administration
and Finance
Officer



Aftab Ahmed Khaskheli,
Internal Auditor



USPCAS-W finance team's Participation in USAID Audit Management Workshop at Karachi

Photo Gallery



Dr. Kazi Suleman Presents Certificate to the one of the Training Participants



The female students plant trees at their hostel



The students display banners for the importance of water on WWD



The jury examines students poster competition on WWD



The visitor from Oxfam visits USPCAS-W outreach stall



Mr. Waqas (AP) briefs NED University students about lab. equipment











Prof. Dr. Khan M. Brohi, Dean Faculty of Architecture & Civil Engineering visits examination arrangements at USPCAS-W MUET



SUSTAINABLE DEVELOPMENT GOAL 6: Ensure Availability and Sustainable Management of Water and Sanitation for All

SDG-6: Targets to be achieved by 2030

- 6.1:  Achieve universal and equitable access to safe and affordable drinking water for all
- 6.2:  Achieve access to adequate and equitable sanitation and hygiene for all
- 6.3:  Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials
- 6.4:  Substantially increase water-use efficiency across all sectors
- 6.5:  Implement integrated water resources management at all levels
- 6.6:  Protect and restore water-related ecosystems
- 6.a:  Expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programs
- 6.b:  Support and strengthen the participation of local communities in improving water and sanitation management

Chief Patron:

Dr. Mohammad Aslam Uqaili
Vice Chancellor
MUET, Jamshoro

Patron:

Dr. Bakhshal Lashari
Project Director
USPCAS-W, MUET, Jamshoro

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