



U.S.-Pakistan Centers for Advanced Studies in Water

MINUTES OF THE FIRST MEETING OF NATIONAL WATER RESEARCH NETWORK (NWRN) HELD AT MUET JAMSHORO ON OCTOBER 24, 2016

First meeting of the National Water Research Network (NWRN) held on Monday, the 24th October, 2016 at Mehran University of Engineering and Technology (MUET) Jamshoro. The Vice Chancellor MUET Dr. Mohammad Aslam Uqaili chaired the meeting and it was attended by the water-related experts and stakeholders including the representatives from PCRWR Islamabad, Ministry of Water and Power Islamabad, and from eight universities viz. University of Agriculture Peshawar, Karakorum International University of Gilgit, NUST Islamabad, UET Lahore, University of Agriculture Faisalabad, MUET Jamshoro, NED University Karachi and Lasbella University Uthal). Besides, faculty members and administrative officials from the US-Pak Center for Advanced Studies (USPCAS-W) MUET Jamshoro and the University of Utah also participated. The list of participants is attached as **Annex A**.

The meeting started with recitation of Holy Quran and followed by a round of introduction of the participants. The meeting proceedings started with a welcome address and opening remarks by Dr. M. Aslam Uqaili, Vice Chancellor MUET. Dr. Uqaili extended warm welcome to the distinguished guests and thanked them for their participation which, in fact, reflected their commitment to the very cause of this assemblage today. He briefed the audience about the changing role of the universities which has transformed from mere manpower generation to the application of knowledge through problem-oriented applied research and technology commercialization as added dimensions for addressing the community needs. He went on to link these changing roles with the aims and objectives of Center for Advanced Studies in Water (USPCAS-W) which has been recently established in MUET with the support of USAID. Dr. Uqaili stated that the objective of this center is to establish a world class education and applied water research center dedicated to resolving the water crisis in Pakistan through applied research, developing specialist human capital and technologies; academia-industry collaboration and policy formulation. Focusing on the water-related issues and challenges, he emphasized the need for jointly developing strategies and actions for making our contribution to sustainable solutions to these issues. Continuing further, he added that establishment of the National Water Research Network (NWRN) is a first step in that direction whereby the Center (USPCAS-W) will act as secretariat of the network, which is in-fact, part of the establishment of larger "Pakistan Water Sustainability Network (PWSN)" which is to seek sustainable solutions of water challenges in Pakistan.

Keeping with the program of the day, four presentations were made by the distinguished water experts viz. Dr. Mohammad Aslam Chaudhry, Chief of Party USPCAS-W, University of Utah, Dr. Altaf Ali Siyal, Professor USPCAS-W MUET, Dr. Muhammad Ashraf, Chairman PCRWR Islamabad and Dr. Rasool Bux Mahar, Professor USPCAS-W MUET. Copies of their presentations are attached as **Annex B, C, D, and E**, respectively.

Presentation by Dr. Aslam Chaudhry: Speaking on the topic "how network partners can benefit from USPCAS-W" (**Annex B**), he briefed the participants on salient features of the USPCAS-W/MUET and explained how its various components are to contribute to Pakistan

Water Sustainability Network (PWSN) and ultimately into achieving the Water SDGs. He described the model of PWSN that included the National Water Research Network as a central component, along with other initiatives like Society for Women Water Engineers, Pakistan Water Development Report, Water Information/ Data Management Group, Water Research Groups, Green Parliamentarians Initiative, Water Media Group, business Academia Collaboration on Water and Policy Research Committee. He shared the rationale behind creation of this network and stated that the network has been conceived to develop a shared understanding on the water research agenda among all stakeholders by promotion of multi-disciplinary research in water sector. He also highlighted some of the potential areas wherein the members of this network can benefit from USPCAS-W: collaborative research in priority areas, advanced water curriculum of 32 courses prepared by the Center, University of Utah periodic training activities at the Center, in-country exchange program for faculty and students, partnerships in the three flagship projects underway at the Center, promotion of business-academia partnership on water, and policy advice to the Government. Besides, he expressed the need for developing specific strategy to further strengthen the network by way of expanding its membership.

In the end, Dr. Aslam said that there is so much to do in the water sector and this network can play role of catalyst to address the water related challenges of Pakistan and contribute in achieving the water SDGs. He also announced that CASW will serve as the Secretariat to facilitate the development and functioning of this network.

Presentation by Dr. Altaf Ali Siyal: The topic of his presentation was: USPCASW Collaborative Research Program in context to SDGs (**Annex C**). Dr. Altaf focused his presentation on target 6.4 of the 6th SDG “Clean Water & Sanitation”> He highlighted the research issues and gaps in water-use efficiency and linked it with the role of academia. He emphasized the need for establishing ties with industry for development and propagation of technology among stakeholders. He specifically suggested the prioritized areas as: Minimizing evaporative losses, Improving conveyance efficiency: low cost material, enhancing furrow irrigation efficiency, alternate furrow irrigation, raised bed furrow irrigation and use of treadle pump. Dr. Altaf insisted upon collaborative research to achieve the water related targets mentioned in the SDGs and that National Water Research Network (NWRN) can bring together expertise and skills for collaborative research in water sector.

Presentation by Dr. Muhammad Ashraf: In his presentation on “Strengthening Research-Policy Interface in Water Sector” (Annex D), Dr. M. Ashraf raised some basic questions on the on-going research and generated positive discussion to answer those questions and identify role of this network in addressing the same. These questions were:

- What is the status of research (basic and applied) in Pakistan?
- Whether the research is reaching to the stakeholders (farmers, community, service providers, professionals, policy makers)?
- Is research being transformed into action/policy? If yes to what extent?
- How research-policy interface can be improved/strengthened?

While explaining the transformation of research into action, he proposed a process whereby each component of the process is to be completed to create an impact of research on the society.

Dr. Ashraf informed that based on a joint deliberation organized by PCRWR and USPCAS-W in May 2016, a working paper on national research agenda has been prepared for Ministry of Science & Technology, Pakistan. The working paper classifies the research agenda under three categories: Water Scarcity, Water Conservation and Drinking Water. It

was indeed agreed that the network shall strive to identify the national needs of research agenda, explore possible collaborative research which is compatible with public needs.

Presentation by Dr. Rasool Bux Mahar: Dr. Mahar talked about the need of business-academia linkage (**Annex E**) for the promotion of technology commercialization and technological solutions of water related problems. He highlighted and explained the difference in academia and industry perception of priorities with particular reference to innovation. He added that industry is not directly in the business of education but it relies on universities as the supplier of talented, educated workforce. The real challenge is how to strengthen this innovation link, he added. Dr. Mahar informed that USPCAS-W has taken initiative in this perspective and a “Standing Committee on Business-Academia Collaboration on Water (SCBAC-W) has been established under Federation of Pakistan Chambers of Commerce and Industries (FPCCI). The purpose SCBAC-W is to serve as an interactive & collaborative arrangement between scientists/researchers and business entities for proposing technology-led solutions to overcome challenges of water scarcity, quality, access and management, commercial application. Dr. Mahar also updated that MUET is planning to set up an incubator for displaying the innovative products. He invited other universities and institutes to utilize this incubator for the commercialization purpose of their innovative prototypes.

Dr. Mahar also briefed about few innovative products for improvement of drinking water quality and treatment of grey water. At this point, Dr. Uqaili mentioned that MUET, for the first time, has submitted seven patents to USA, among which 2 were at the final stage of approval.

Discussion

The members actively participated in the discussion on each presentation. Dr. Ashraf suggested that the collaborative research under this network shall target specific issues/challenges and come up with workable solutions.

Dr. M. Ashiq Kharal emphasized that in addition to targeting improved water-use efficiency, efforts shall be taken to enhance the water storage capacity so that barren lands can be cultivated.

It was also agreed that the network shall consolidate the existing research work on priority issues & challenges and carry forward the research to achieve the applicable outcomes. For this, it is essential to develop a central database where all research work is consolidated, accessed and shared.

Dr. Qazi Tallat said that there are capacity issues with planning commission and other related offices. This network shall develop close liaison with such offices and also work towards their capacity building in term of sensitizing them on the pressing water related issues and their solutions.

Dr. Aslam Chaudhry emphasized that network shall advocate the evidence based research in the water sector and provide feedback to the policy-makers for improved policy formulation. He also mentioned that it is also very essential to maintain a close linkage with parliamentarians and media and enhance their capacity on the water related issues so that they are enabled to advocate the water related matters for realistic solutions. Dr. Kharal suggested that the network shall also develop a strategy to effectively reach out the politicians/parliamentarians.

Dr. Ashiq Kharal shared that in order to get the knowledge on real problems, in Punjab they approached NESPAK and Irrigation Department and asked them provide them list of challenges that they were facing. He said after getting such lists they took each one problem as a research questions and engaged their students to research on those challenges. The idea was highly appreciated and positively taken for replication in other departments/provinces.

Mr. M. Arshad informed that Govt. of Punjab has involved academia in the project review process for the approval of various schemes under provincial ADP. This is done with the aim to obtain technical and expert view point on various projects so that the realistic projects are implemented. The initiative was appreciated and taken for consideration of other provinces.

While discussing the water related other challenges, it was also agreed that population growth of the country also needs to be managed so that resource-use is optimized.

Summary/Resolution

Dr. Bakhshal Lashari concluded the meeting by summarizing the discussion and listing down the next steps for moving forward with the NWRN.

- 1- The network will be strengthened by involving stakeholders from government of Pakistan, industry, water experts, media, civil society, and parliamentarians, thereby ensuring women participation as well.
- 2- The network shall develop a central water data bank by consolidating the existing research work. It shall also track inventory of on-going and planned research initiatives.
- 3- Members of the network shall develop joint research projects and explore funding opportunities for implementation of such projects.
- 4- The network shall share innovative ideas; like expanding the in-country exchange programs for faculty and students of different universities of Pakistan.
- 5- The network shall develop advocacy strategy to reach out the key stakeholders at policy-making level and also plan to organize trainings for the capacity building of policy-makers, planners and media representatives.
- 6- Set out and prioritize the national water research agenda and take actions for its smooth implementation.
- 7- The network shall initially meet every three months on rotation basis so that every member organization gets a chance to host the meetings.
- 8- In order to operationalize the network and for its smooth functioning, chair nominated the three member committee as under;
 - i- Dr. M Ashraf, Chairman PCRWR as Head of the Committee
 - ii- Dr. Bakhshal Khan Lashari, Director USPCAS-W as Secretary
 - iii- Dr. Ashiq Kharal, UET Lahore as Member
- 9- Initially, it was agreed that NWRN will hold meetings on quarterly basis and the next meeting will be hosted by PCRWR Islamabad.

List of Participants

S. #	Name	Designation	Dept./Organization
1	Dr. M. Aslam Uqaili	Vice Chancellor	MUET, Jamshoro
2	Dr. Tauha Hussain Ali	Pro Vice Chancellor	MUET, Jamshoro
3	Prof. Dr. Hamza Farooq Gabriel	Director Regional Centre	NUST, Islamabad
4	Dr. Muhammad Ashraf	Chairman	PCRWR, Islamabad
5	Mr. Iqtidar Hussain	Faculty Member	Karakoram International University, Gilgit
6	Mr. Muhammad Arshad	Chairman	University of Agriculture, Faisalabad
7	Prof. Dr. Tahir Sarwar	Chairman	University of Agriculture, Peshawar
8	Prof. Dr. Muhammad Ashiq Kharal	Director	CEWRE, UET, Lahore
9	Dr. Qazi Tallat	Deputy Advisor on Energy	Ministry of Water and Power Islamabad
10	Dr. Shafqat Eijaz	Director	NED University, Karachi
11	Mr. Imdad Hussain Khoso	Lecturer	Lasbella University, Uthal
12	Dr. Bakhshal Khan Lashari	Project Director	USPCAS-W, MUET
13	Dr. Aslam Chaudhry	Chief of Party	USPCAS-W, University of Utah
14	Dr. Kamran Ansari	Deputy Director	USPCAS-W, MUET
15	Prof. Dr. Rasool Bux Mahar	Professor/Sectional Head, EnvEng.	USPCAS-W
16	Prof. Dr. Altaf Ali Siyal	Professor	USPCASW, MUET
17	Mr. Haris Akram Bhatti	Faculty Member	NED UET
18	Mr. Shahid Panhwar	M&E Specialist	USPCAS-W, MUET

*Presentation By: Dr. Mohammad Aslam Chaudhry, Chief of Party USPCAS-W,
University of Utah*



National Water Research Network: How can Network Members Benefit from US-PCASW?

M. Aslam Chaudhry, Ph.D.
Research Professor
Department of Economics
University of Utah, USA
Chief of Party/Deputy Project Director,
U.S.-Pakistan Centers for Advanced Studies in Water



24 October 2016



Salient Features of US-PCASW

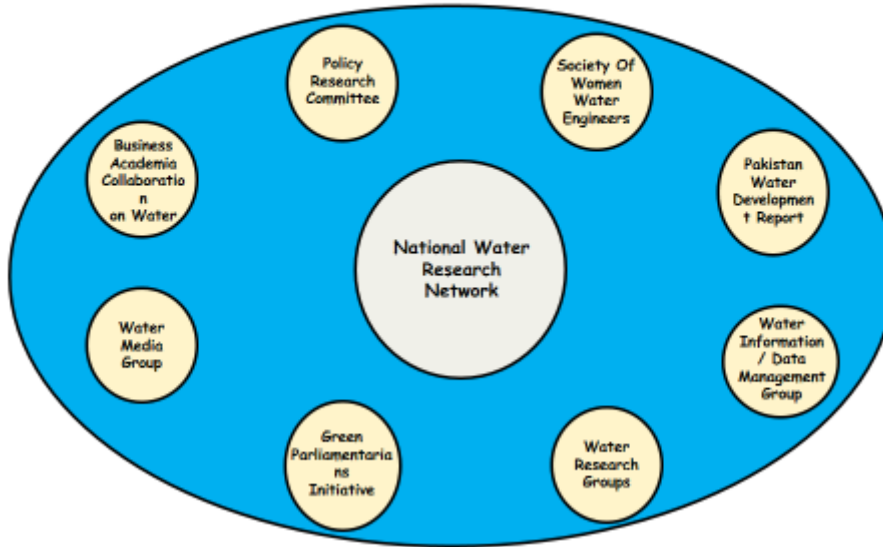
- 1. Degree Programs/Curriculum Reform**
- 2. Applied Research**
- 3. Exchanges and Training**
- 4. Governance and Sustainability**



USAID
U.S. Agency for International Development



Pakistan Water Sustainability Network



USAID
U.S. Agency for International Development



National Water Research Network: Rationale and Objectives

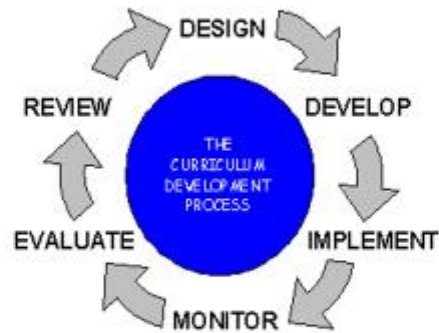
- Developing shared understanding of sector agenda
- Supporting achievement of water SDG
- Promoting Multi-disciplinary research in water sector
- Sharing of knowledge and best practices

How can Network Members Benefit?

1. Collaborative Research

- Overcoming water scarcity
- Developing and maintaining water infrastructure
- Improving water quality
- Improving water use efficiency and 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

2. Advanced Water Curriculum



In four program Streams, curriculum for a total of 32 courses has been developed through a rigorous process. This can be adapted in other universities teaching the same or similar courses.

3. UoU Training Activities

Students Mentoring



Research Teams



Grant Writing Workshop



Project Based Learning CWP



Effective Teaching Workshop



Water, Sanitation and Health





4. Exchange Program (Faculty and Students)



5. Partnership with Flagship Projects

1. Pakistan Water
Development Report



2. Decision Support system/
Indus Basin Modeling

3. Localizing SDG Agenda



6. Business-Academia Partnership on Water



7. Joint Seminars/ Workshops



8. Policy Advice to the Government



Concluding Thoughts

1. So much to do and we all can contribute
2. Sharing of data, information and knowledge
3. Advancing the implementation of water SDG
4. Strategy for expanding network membership and capacities

US-PCASW will be happy to serve as the Secretariat to facilitate the development and functioning of this network

Presentation By: Dr. Altaf Ali Siyal, Professor USPCAS-W MUET



U.S.-Pakistan
Centers for Advanced Studies in Water



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National Water Research Network (NWRN)

USPCASW Collaborative Research Program in
context to **SDGs**



PROF. DR. ALTAF ALI SIYAL

MEHRAN UNIVERSITY OF ENGINEERING & TECHNOLOGY
JAMSHORO

U.S.-Pakistan Centre for Advanced Studies in Water

Sustainable Development Goals (SDGs)-2030



TRANSFORMING OUR
WORLD:
THE 2030 AGENDA FOR
SUSTAINABLE
DEVELOPMENT

1 NO POVERTY	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	14 LIFE BELOW WATER	15 LIFE ON LAND	16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS				

Sustainable Development Goals (SDGs)-2030



6. Clean Water and Sanitation (Six Targets)

- 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all
- 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
- 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
- 6.4 By 2030, **substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity**
- 6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
- 6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
- 6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programs, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
- 6.b Support and strengthen the participation of local communities in improving water and sanitation management

Research Issues/Gaps



- Lack of reliable data and figures about water productivity on national, provincial and local basis
- Outdated definition/demarcation of agro-climatic zones and suitability of cropping pattern for different agro-climatic zones
- Limited knowledge about drought resistant crop varieties, their potential and adaptation
- Lack of knowledge about value of water in growing different crops (and/or in different seasons)
- Stagnation in yield of crops (limited new research, poor extension services, nutrient deficit soils, declining water quality, soil moisture contents, poor farming systems, zero tillage, precision land levelling etc.)
- Feasibility and economics of different irrigation systems/ methods/ technologies
- Slow adaptation of innovative water conservation technologies
- Poor information concerning wastewater reuse in agriculture and its impact on human and livestock health

Research Issues/Gaps



- Effectiveness of different participatory irrigation approaches/ models
- Technological needs for subsistence farmers
- Magnitude of corruption in irrigation water distribution and allocation
- Demarcation of agriculture land in riverine (kacha) areas, including assessment of agricultural productivity of these areas
- Aligning irrigated land records with agricultural water pricing mechanism
- Groundwater potential and abstraction in different zones
- Status of agricultural drainage in Pakistan
- Knowledge about climate change adaptation strategies
- Low cost lining technology for watercourses and field Channels

ROLE OF ACADEMIA



- Identify the problem /issue
- Develop ideas/knowledge to solve the problem
- Develop hypothesis to solve/address the issue
- Test hypothesis through modeling & field trials
- Develop ties with industry for development and propagation of technology among stakeholders

Research Groups at USPCASW



- Group 1: Water Governance and Sustainable Development
- Group 2: Clean Water Infrastructure and Technologies
- Group 3: Water Informatics and Decision Support
- Group 4: Sustainable Agriculture Water Management

SOME OF AREAS NEED TO BE FOCUSED



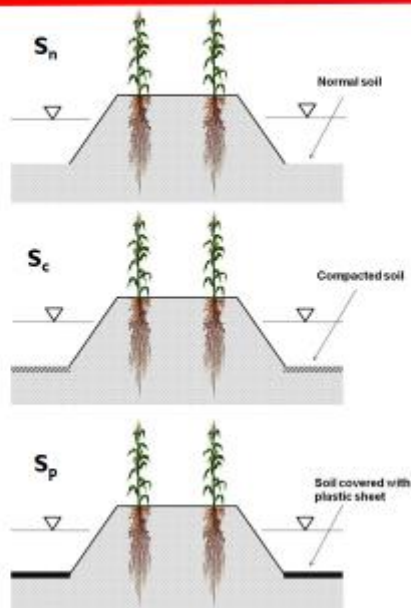
Minimizing Evaporative Losses



Improving Conveyance Efficiency: Low Cost Material



ENHANCING FURROW IRRIGATION EFFICIENCY



ENHANCING FURROW IRRIGATION EFFICIENCY



Water application (L h ⁻¹)	S _n	S _c		S _p	
	mm	mm	%	mm	%
600	187	136	27.3	106	43.3
700	150	117	22.0	96	36.0
800	132	107	18.9	90	31.8
900	120	100	16.7	86	28.3
1000	112	95	15.2	84	25.4

Alternate Furrow Irrigation



Raised Bed Furrow Irrigation



TREADLE PUMP



Why Collaborative Research



Why collaborate?

- To pool out our resources and skills as different institutes have different human resources and skills.
- Thus, bring together different perspectives and skills
- Achieve synergistic outcomes
- Improve research productivity

Typical collaborations

- Within Institute
- Interdisciplinary
- Across academic institutions
- Academic and Research Institute
- With Research Labs/Institutes
- Academia & Industry



To achieve the water related targets mentioned in the SDGs, **National Water Research Network (NWRN)** is established to bring together expertise and skills for collaborative Research in Water sector.



U.S.-Pakistan Centre for Advanced Studies in Water

THANK YOU

Presentation By: Dr. Muhammad Ashraf, Chairman, Pakistan Council of Research in Water Resources (PCRWR), Islamabad

Strengthening Research-Policy Interface in Water Sector

Dr. Muhammad Ashraf

Pakistan Council of Research in Water Resources (PCRWR)

October 24, 2016

Research-Policy Interface?

- What is the status of research (basic and applied) in Pakistan?
- Whether the research is reaching to the stakeholders (farmers, community, service providers, professionals, policy makers)?
- Is research being transformed into action/policy? If yes to what extent?
- How research-policy interface can be improved/strengthen?

What is the status of research (basic and applied) in Pakistan?

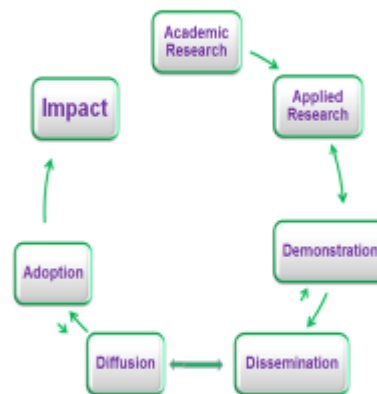
- Basic and applied research is being done in an isolation
- Research is being done to cater needs of the individuals or the institution instead of needs of the country
- The major focus of research is publishing in impact factor journals instead of its impact on the society
- There is not a single institution that could determine needs for research in the country
- There is no national research agenda on water
- Draft National Water Policy Clause 20.1 states that “a national agenda for research in water and water-related issues shall be prepared and periodically updated which shall become a blueprint for a national endeavor”
- After a series of consultative meetings, PCRWR in collaboration with MUET has recently developed a draft National Research Agenda on Water

Whether the research is reaching to the stakeholders (farmers, community, service providers, professionals, policy makers)?

- The knowledge/research could not reach to the stakeholders (farmers , agricultural service providers, professionals and the policy makers)
- The researchers/scientists think that dissemination of technologies is not their job rather it is the job of extension workers and left these technologies at the mercy of Agri. Extension Department
- The Agri. Extension Staff lack knowledge, capacity and is also working in an isolation
- There is no collaboration among academia, research, industry and development agencies

Is research being transformed into action/policy? If yes to what extent?

- Transfer of technology is a slow and complex process. It involves technical, economic, social and cultural dimensions.
- Resultantly, research is not being transformed into action and policy
- However, there are few examples: watercourse improvement, laser land leveling



How research-policy interface can be improved/strengthened?

- Narrow down the gap among the academia, researchers, professionals and the policy makers
- Instead of piecemeal, conduct research regarding the prevailing water challenge under flagship programs
- Conduct collaborative research involving multi-sectoral and multi-dimensional approach to solve the more complicated and complex issues
- Research should be compatible to the international standards and focused on public needs of the targeted region

“We are not aristocrats who believe in science for the sake of science. We are humble scientists who believe in science for the welfare of the human beings”

Prof. Wintercorn, (1954)

Thank You

muhammad_ashraf63@yahoo.com

Presentation By: Dr. Rasool Bux Mahar, Professor USPCAS-W MUET



U.S.-Pakistan Centers for Advanced Studies in Water (USPCAS-W)

Building and Enhancing Business-Academia Linkages

By

Dr. Rasool Bux Mahar

U.S.-Pakistan Centers for Advanced Studies in Water (USPCAS-W)

Mehran of Engineering and Technology
Jamshoro, Sindh, Pakistan

Partnering Universities:



OUTLINE

- Introduction
- Objectives of Building and Enhancing B-A Linkages
- Innovations & Challenges
- How to Build and Enhance Partnership with Industry
- Establishment of SCBAC
- Brief about a few Innovative products for improvement of water quality
- Discussion

INTRODUCTION

- A productive interface between academia and industry, in the present times of knowledge economy, is a critical requirement. The industry academia interface is all about knowledge transfer and experience/technology transfer.
- Universities and industry, which, for long have been operating in separate domains, are rapidly inching closer to each other to create synergies. The constantly changing management paradigms, in response to growing complexity of the business environment today have necessitated these two to come closer.

INTRODUCTION (Cont'd)

- There are two key factors that are driving the trend toward industry-institute interface. They are the development of technology that allows the university to deliver quality coursework to the worksite and increased competitiveness at companies.
- Universities have to play a great role in the emergence of clusters in industrial region, like patenting, venture funding, developing incubators and commercializing the ideas.

OBJECTIVES

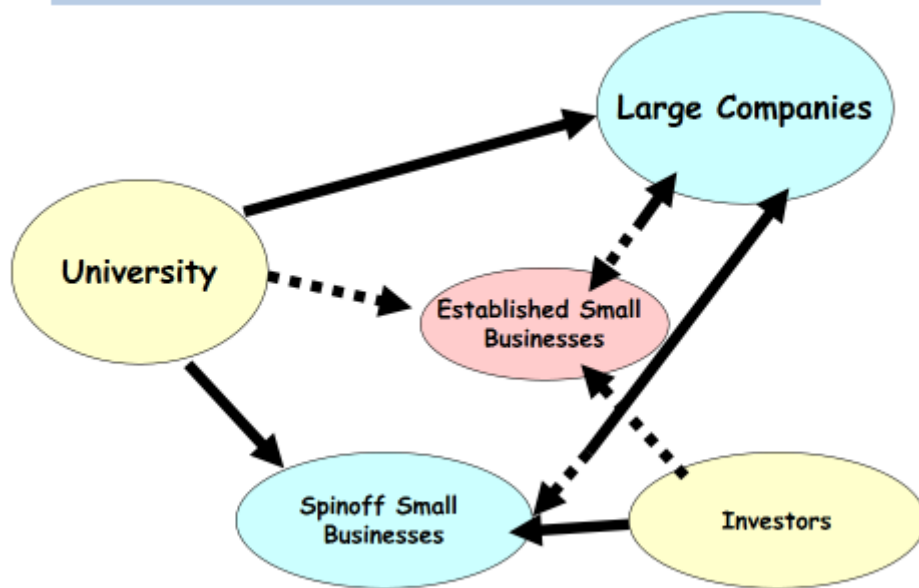
- Main objective is to develop a better understanding of the impacts of HEIs on the innovativeness and competitiveness of regional economies.
- To identify the various avenues through which universities interact with local industries, businesses and other intermediaries in relation to research and innovative activity.

CHALLENGES

Number of major challenges in University–
Industry interactions:

- Simple lack of information about what is on offer from universities
- Quality of information real innovation provided by universities once contact made...

INNOVATION SPECTRUM



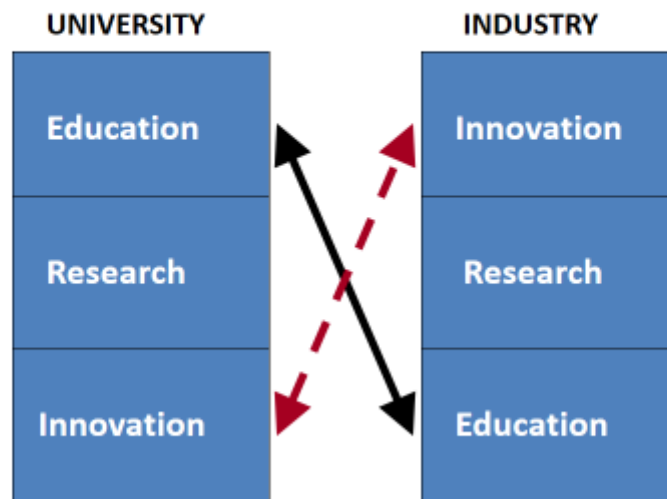
Innovation through Partnerships

INNOVATION*

The design, invention, development and/or implementation of new or altered products, services, processes, systems, organizational structures, or business models for the purpose of creating **real** value for customers and financial returns for the firm

*Innovation Measurement: A Report to the Secretary of Commerce, January 2008

UNIVERSITY – INDUSTRY PRIORITIES



How to Build Partnership with Industry

WHY RESEARCHERS NEED PARTNER

- Access to data
- Sample groups and research subjects
- Application of research to real problems
- Practical 'on the ground' expertise & understanding

WHY INDUSTRY PARTNERS - SOME OTHER REASONS

- Independent validation
- To collaborate with others on issue of common importance
- To test new system, strategy, idea that is outside immediate organization priorities
- Personal interest in research or improving research skills
- Forming a link with University

IDENTIFYING PARTNERS -WHAT IS YOUR PROJECT/RESEARCH REALLY ABOUT?

Suggest concept paper to:

- clarify your thinking & why you need partners
- Identify potential partners
- use as a briefing for prospective partners
- Identify other possible funding sources
-And at some point a briefing / concept document will be needed

WHO COULD BE INTERESTED

- Obvious – organizations who work in your field or have similar objectives

USING A BRIEFING NOTE/CONCEPT PAPER

Written overview of project to inform lay reader

- Concise but comprehensive (2 pages)
- Clear and easy to follow
- Reliable
- Relevant to reader

ESTABLISHMENT OF STANDING COMMITTEE ON BUSINESS-ACADEMIA COLLABORATION ON WATER(SCBAC)

OBJECTIVES OF SCBAC

- The purpose SCBAC on water is to serve as an interactive and collaborative arrangement between scientists / researchers and business entities for proposing technology-led solutions to overcome challenges of water scarcity, quality, access and management, commercial application as such it would make important contributions in meeting the **SDG on water and its six specific targets**.
- Considering the context of **SDG on water**, the research and technological innovations could focus on providing integrated solutions with regard to low cost water supply systems, efficient water treatment systems, wastewater reuse technologies, and technologies for improving water use efficiency in all water consuming sectors etc.

GOVERNING ARRANGEMENTS

Chairman:	Muhammad Waseem Vohra (Business Community, Vice Preseident, FPCCI)
Senior Vice Chairman:	Dr. Rasool Bux Mahar, US-PCASW, MUET
Vice Chairperson:	Dr. Arbella Bhutto, MUSTID, MUET
Secretary:	Dr. Zulfiqar Umrani, MUET
Members from Academia:	<ol style="list-style-type: none">1. Dr. Altaf Siyal, Professor, US-PCASW, MUET2. Dr Sarah Hassan, Assistant Professor, US-PCASW, MUET3. Dr. A. K. Ansari, Research Associate, US-PCASW, MUET4. Dr. Zeeshan Khatri, Professor, MUET5. Dr. Qamar Mahar, Professor, Isra University, Hyderabad Looking for more members from various Universities of Pakistan
Members from Business (New members to be inducted)	<ol style="list-style-type: none">1. Chamber of Commerce and Industry Hyderabad (in process)2. Trade Development Authority of Pakistan (TDAP)-(in process)3. Sindh Abadgar Board (in Process)4. Agriculture Chamber of Commerce (Process)6.....

TARGET ACHIEVED

- First Meeting of SCBAC on water, **“Dialogue on Water and Business”** at Federation of Pakistan Chambers of Commerce and Industry, at Karachi dated 25.07.2016
- Second Meeting of SCBAC held at MUET Jamshoro, dated on 01.09.2016
- Visited Lucky Textile Industry to discuss research project in collaboration on 06.09.2016
- Awareness Raising Seminar Organized in MUET, Jamshoro on , **“ How to Transform Idea into Business”** on 29.09.2016.

Meeting the Water Demand by Recycling
Greywater and Reuse

Greywater recycling



Greywater recycling



Discussions

Q & A

*Thank
You*

Many thanks for your attention