

# **WIT Summer School on ‘Water Informatics: Science & Systems’**

**May 21st- 23<sup>rd</sup>, 2017**

**Centre for Water Informatics and Technology  
Lahore University of Management Sciences**

## **Panel Discussion:**

New Opportunities for Water Informatics and Precision Agriculture in Industry and Governance

## **Panelists:**

Dr. Abubakr Muhammad (Moderator)

Mr. Habidulla Bodla (Chief Monitoring, PMIU, Punjab Irrigation Dept.)

Mr. Mehboob Elahi (Sustainable Agri Manager, Nestlé Pakistan)

Dr. Wasif Khan (WIT Faculty Associate, LUMS)

Dr. Imran Cheema (WIT Faculty Associate, LUMS)

## **Background:**

In the first half of the 20<sup>th</sup> century, the water and agriculture sector in the Indus basin was a model for the rest of the world in innovation, technology adoption, research and productivity. In the past few decades however, the sector has suffered in a period of decline and neglect, during which the rest of the world has gained tremendous gains in productivity and efficiency while Pakistan has begun to encounter the challenges of climate change, population explosion and urbanization. In recent years, there have been new developments which have given a new hope to these sectors. Leading the water sector innovation in public sector, the PMIU in Punjab Irrigation Dept has come a long way from setting up a complaint cell in early 2000's to an advanced water monitoring and reporting portal powered by water informatics technologies. In the corporate sector, industries like Nestle have begun to experiment with technologies of precision agriculture and data analytics to optimize their dairy chain and farm operations. In academia, new centers of excellence like WIT at LUMS have started to tackle indigenous research questions using technologies and methods at the interface of ICT, data mining, modeling and geosciences. Advanced prototypes of drones, smart meters and IoT devices are now being experimented in both government and agricultural industry with the help of academia and budding entrepreneurs. Against this backdrop, the panel explores the challenges and opportunities of these sectors and brings the leading Pakistani innovators in all three sectors of government, industry and academia to chart a course for the future of water and agriculture in Pakistan.

## **Questions to Panelists.**

Q1. In your opinion, what are the most pressing requirements of the water governance sector, for which innovation needs to come from outside the traditional water industry and academia?

Q2. What are the areas of research on which academia need to focus its attention for research, to support innovation and productivity enhancements of the agriculture sector?

Q3. What are the biggest challenges being faced by the Pakistani farmer, for which government and industry is currently unable to provide the required support?

Q4. What will be the role of private industry in providing water informatics related data services for on-farm water management and bulk irrigation delivery?

Q5. While the corporate and progressive farmer is keen to adopt precision agriculture solutions, would this adoption benefit the small farmers? Wouldn't this create an even bigger barrier for small farmers to compete in the local markets?

Q6. What in your opinion are the key technologies that can help the Pakistani farmers and irrigation managers to increase the efficiency of water usage in agriculture?

Q7. What is the scope of water informatics solutions for urban water distribution, drainage and storm water management?

Q8. In your assessment, what technologies are available or can be developed rapidly to address problems of contamination in water, food and the environment?

Q9. Based on your experience, how do you assess the current capacity of Pakistani universities to prepare a workforce for the future water, agriculture and environment sectors of the country? What are our areas of weaknesses in education and training?

Q10. While there is a general air of optimism in adopting these technologies, do you sense any long term threats related to sociological changes or non-sustainability in these adoptions?