SESSION 4A: EFFICIENCY IN AGRICULTURAL WATER USE

SUMMARY SESSION

OVERALL

- Session chaired by **Garth Taylor,** University of Idaho
  - Two strong-evidence based cases were presented to illustrate the allocation efficiency of a canal water management in Pakistan and the economic/environmental benefits of a traditional communal irrigation system in Thailand.
  - In addition, a clear/clever example to illustrate the four key- must-follow steps to assess irrigation improvements was showcased.

TAKE AWAYS

- Agricultural Water Allocation Efficiency in a Developing Country Canal Irrigation System by **Agha Ali Akram**
  - Good quality data regarding water withdrawals (volumetric measures) per farm is A MUST to assess allocation efficiency of irrigation systems. Traditional measures say very little about the efficiency of the system. Knowledge about conveyance efficiency is also required.
  - Welfare gains from improved efficiency allocation were estimated between 12-14%. CAUTION - when assessing welfare gains from improved efficiency allocation, make sure you account for groundwater.

TAKE AWAYS

- Estimating the Economic and Environmental Benefit of a Traditional Communal Water Irrigation System: The Case of Muang Fai (Canal Weir) in Northern Thailand by **Arriya Mungsunti**
  - Traditional small-scale communal system is more efficient than privately-owned groundwater system in terms of productivity, water use efficiency and water quality
    - Not a panacea – maintenance problems (token fee paid by users).
  - Drought situations managed through the traditional Queue System – Village Council allocates Queue Card to farmer that needs the water the most.
    - Can pass the card to others at no compensation/payment – reason for the system to be more than 700 years old, no money has ever been involved with the Queue Card!

TAKE AWAYS

- Economic Rivalry, Irrigation Abstraction, and Partition to Fates by **Bryce A. Contor**
  - When irrigation efficiency is improved, increases in consumptive use in the basin must be accounted for. Four-step rules:
    - Consider irrigator response
    - Sort out and close the water budget
    - Consider economic rivalry
    - Do the numbers please!
  - Any inaction or gap likely to lead to unintentional water reallocation and consequences.
  - Tools are available, e.g., Irrigation Demand Calculator. Put them to a good use!