Managing groundwater irrigation in the Central Highlands of Viet Nam

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Project objectives

• Objectives
  • Contribute towards the development of integrated and demand side water policy in the Central Highlands of Viet Nam.
Project collaborators

- Ministry of Natural Resources and Environment
- Ho Chi Minh City Economics University
- Central Highlands University
- The Australian National University

Core project analyses

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Water in coffee production

- **Objectives**
  - To estimate the value of dry season irrigation water in micro-basin smallholder coffee production.
  - To identify opportunities to increase irrigation water use efficiency on coffee smallholdings in the Dak Lak Plateau.

- **Approach**
  - A survey of 106 Robusta smallholdings from Buon Don, Cu m’gar, Krong Ana, Krong Buk, Krong Pak, and Buon Ma Thuot.

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Water in coffee production

• **Key results**
  • Current coffee cultivation practice is not efficient, too much water being used, too high costs for pumping
  • Reducing water input would reducing costs and increase profit
  • Current price of 50,000 VND/m³ is too low, leading to over use problem

• **Policy implications**
  • Substantial scope for increasing irrigation water use efficiency and coffee profits via irrigation scheduling and reducing water input.
  • Substantial scope for water ‘savings’ in the DLP, in the range of 340,000 ML per annum.
  • Need to change water pricing to reflect water value correctly
Willingness to pay to improve natural water resources in DLP

• Objectives
  • To estimate how much households in the DLP would be willing to pay for a project that could improve the water resource situation in the DLP.
  • To identify the factors that motivate household willingness to pay for the program.

• Approach
  • Survey with 165 usable household responses, unevenly but randomly selected from the six districts in the Dak Lak Plateau (Buon Don, Cu m’gar, Krong Ana, Krong Buk, Krong Pak and Buon Ma Thuot).

Policy implications
• Households in the Dak Lak Plateau are willing to pay for a coffee irrigation water use efficiency training program, given an expectation that this program would deliver hydrologic and agro-environmental benefits in the DLP.
• Potential challenges to implementing such a program, and potential data limitations.
Re-allocating water in the DLP during the dry season: welfare and sustainability implications

• Objectives
  • To determine whether increasing irrigation water use efficiency (WUE) on coffee and rice smallholdings in the Dak Lak Plateau would (i) increase the well-being of people in the Plateau and (ii) move the Plateau towards a more sustainable water use regime.
  • To evaluate changes in social well-being and hydrologic balances for the subcatchments within the Plateau.

• Approach
  • Integrated hydrologic-agronomic-economic modeling.

• Policy implications
  • There is a clear policy rationale, motivated by the objective to increase social well-being, for programs that increase irrigation WUE on coffee smallholdings in the DLP.
  • Irrigation WUE programs should be targeted by subcatchment.
  • There is an economic rationale for re-allocating water from rice to higher valued uses.
Thank you