

Wageningen University

Department of Environmental Sciences

Chair Group Water Resource Management

MSc International Land and Water Management

MSc Internship: How socio-hydraulic units explain agronomic outcomes:

Reasons behind and strategies to address untimely rice establishment in
Nepal's Western Terai

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Picture on cover page: *Farmer in Banke district two weeks after transplanting his rice crop. It did not rain for another week.*

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Abstract

Late nursery establishment is one of the major understudied factors that limit productivity of rice-wheat system in the Indo Gangetic Plains. To fill this knowledge gap this report presents and discusses the findings a field study on the reasons for timely and untimely crop establishment in Nepal's Western Terai and area pertaining to the Middle Gangetic Plains. The report shows that timely rice nursery establishment in the Western Terai is mainly dependent on access to irrigation and more concretely defined by the type irrigation facilities available to a farmer. We propose that studying water related agronomy issues such as nursery establishment, transplanting and irrigation scheduling should be viewed through the lens of socio-hydraulic units within which water distribution unfolds as presented in the results section. Furthermore, we discuss how global and regional irrigation debates with their predominant focus on water scarcity and groundwater depletion diverts attention from the water management issues of interest to the poorest farmers within the Indo Gangetic Plains. To rebalance the debate, we propose a basis for future research and development programming by suggesting three cross-cutting issues that affect agricultural water management in the neglected middle reaches of the Ganges and explore possible strategies to address them.

Key words: socio-hydraulic units, nursery establishment, Indo-Gangetic Plains, irrigation, Terai, water management