

Evidences

Study #4443

Contributing Projects:

- P1952 - Exploring options to increase water and nitrogen use efficiency and to enhance carbon sequestration in rainfed wheat-based systems
- P1388 - Coordination of CoA 4.2
- P872 - Environmental protection using traits associated with biological nitrification inhibition (BNI) - Reduction of N fertilizer use for wheat production using the BNI
- P1390 - Coordination of CoA 4.3
- P1927 - Environmental protection using traits associated with biological nitrification inhibition (BNI) - Reduction of N fertilizer use for wheat production using the BNI function.
- P1958 - Biostimulant: Preliminary experimental assesment of seed and fertilizer coating with humic acids (HumiFirst)

Part I: Public communications

Type: Other MELIA activity

Status: Completed

Year: 2021

Title: Wealth, gender, education, migration, access to market, training, and off-farm income sources drive organic and inorganic fertilizer use.

Commissioning Study: CRP

Part II: CGIAR system level reporting

Links to the Strategic Results Framework:

Sub-IDs:

- Reduced smallholders production risk
- Reduce pre- and post-harvest losses, including those caused by climate change

Is this OICR linked to some SRF 2022/2030 target?: Yes

SRF 2022/2030 targets:

- # of more farm households have adopted improved varieties, breeds or trees
- Increase in water and nutrient (inorganic, biological) use efficiency in agro-ecosystems, including through recycling and reuse

Description of activity / study: Using data from 2528 households across the Indo-Gangetic Plains in India, Nepal, and Bangladesh, researchers analyzed factors affecting farmers' use of organic and inorganic fertilizers for rice and wheat. Wealth, gender, education, migration, access to market, training, and off-farm income sources are key factors influencing the application of organic and inorganic fertilizers. Economic and social capital factors are primarily positively correlated with increased inorganic fertilizer use.

Discussions with farmers in Coastal Bangladesh showed they prefer using off-farm income to purchase agricultural inputs, rather than credit. Public policy that enables off-farm income generation opportunities are likely to be of use, where current level of fertilizer application is below optimum, particularly for resource-poor farm families. Where farmers routinely over-apply fertilizers, or practice imbalanced application, more complex policy, and development interventions may be needed, including educational programs, direct training, and behavioral nudging methods that encourage more rational use.

Geographic scope:

- Multi-national

Country(ies):

- India
- Bangladesh
- Nepal

Comments: Indo-Gangetic Plains focussed

Links to MELIA publications:

- <https://doi.org/10.1007/s11356-021-13975-7>