

DISCUSSION OF “IRRIGATION INFRASTRUCTURE AND SATELLITE-MEASURED LAND USE IMPACTS”

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- **approach:** estimate the impact of irrigation on NDVI-derived cultivation rates
- **findings:** impact of irrigation access on cultivation is...
 - high and does not subside for decades
 - heterogeneous geographically
 - much higher after 2000 regardless of implementation year
 - still limited by poor access to canals and financing, according to farmers

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- instead, establish a correlation between NDVI and yields for rice within that region
 - studies linking NDVI to yields, output in Senegal and neighboring countries do exist
 - alternatively, use own NDVI data linked to recent gov’t agricultural surveys

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WHY DO SOME LOCATIONS BENEFIT MORE THAN OTHERS?

- bring in location characteristics from other sources, explore impact heterogeneity by those characteristics
- farm size, size distribution, land ownership mode
- sources: admin. data, household surveys (a handful exist)

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WHY ARE BENEFITS VASTLY HIGHER AFTER 2000?

- irrigation access far more impactful after 2000 regardless of cohort, but why?
- try to identify which (if any) of the post-2000 market reforms are responsible
- potential approach: exploit geographic variation in exposure to different reforms
- e.g. if a reform is rice-centric, can exploit variation in pre-reform rice cultivation rate or GAEZ rice suitability
- e.g. if a reform is family-farm-centric or agribusiness-centric, can exploit variation in farm size, ownership mode

MINOR COMMENTS

- why cultivation rates instead of raw NDVI? If irrigation raises yields on existing fields, cultivation rate will miss it
- interesting to compare extensive vs intensive margin: effect on cultivation rate (current variable) vs effect on NDVI conditional on cultivation