

Essays on development economics

Citation for published version (APA):

Ahmed, M. H. (2023). *Essays on development economics: Climate change, education and development*. [Doctoral Thesis, Maastricht University]. Maastricht University. <https://doi.org/10.26481/dis.20230516mh>

Document status and date:

Published: 01/01/2023

DOI:

[10.26481/dis.20230516mh](https://doi.org/10.26481/dis.20230516mh)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

SUMMARY

This dissertation consists of four empirical studies and examines how environmental and developmental changes affect decisions about food consumption, agricultural production, and investments in human development. More specifically, it investigates: (1) if and how smallholder farmers respond to weather variations during the early planting season by adjusting their land allocation decisions; (2) if and how access to irrigation affects the diet quality of farming households; (3) whether living close to higher education institutions improves school performance at lower educational levels; and (4) whether rural roads support education and/or employment for children.

Chapter 2 presents the first causal estimates of the impact of early planting season weather patterns on smallholder farmers' decisions on the allocation of agricultural land. The study is motivated by recent economics and psychology literature that suggests that recent realizations of an event have a disproportionately large influence on human expectations about the likelihood of that event occurring again. Using panel data obtained over seven years and high-resolution weather data, we show that smallholder farmers adjust their land allocation decisions in response to short-term weather variability.

Chapter three contributes to the literature by examining the nutritional effects of small-scale irrigation. Despite the recognized nutritional benefits of agricultural developments, there is a dearth of research on the nutritional effects of agricultural asset ownership, particularly regarding the link between irrigation use and rural welfare. Nevertheless, since the degree of substitutability between water and other crop inputs is very low, a separate analysis is required to examine the impact of irrigation on the welfare status of farm households. We use the Endogenous Switching Regression model to account for endogeneity concerns. Our results indicate that access to irrigation has a positive effect on diet quality, with an increased likelihood of producing nutritious foods and adopting productivity-enhancing innovations as the main mechanisms.

The fourth chapter looks into how universities affect host communities. In contrast to earlier studies that mainly concentrated on the spillover effects in the form of creating jobs, stimulating innovation, and producing graduates, we add to the body of knowledge by shedding light on the impact on lower-level schooling of female adolescence in host communities. We use Ethiopia's recent rapid expansion of public universities as a case and implement the event study framework to exploit variations in the timing of the establishment of universities between 2007 and 2014. We demonstrate the positive spillover effects of public universities by showing how they promote ed-

educational attainment among girls. We also document other behavioral changes, such as changes in fertility and reproduction decisions and information-seeking behavior of female adolescents.

The fifth chapter investigates the impacts of rural roads on children's schooling and labor allocation decisions. Existing studies that investigate the contributions of rural roads mainly focused on short-term gains disregarding the long-term benefits such as human capital development. Our study contributes to the literature by examining whether Ethiopia's Universal Rural Road Access Program, which commenced in 2011, reshaped children's labor allocation and educational outcomes. We combine national level panel data with novel road network data. The endogeneity concern arising from the non-random road placement decision is addressed by combining the Difference in Difference techniques with a matching approach. We use multiple schooling and labor outcome indicators, and our results consistently suggest that road access does not encourage school absenteeism or early dropouts to enter the labor force.

In the sixth chapter of the dissertation, we provide a conclusion and policy recommendations based on the results presented in each chapter.