# DATA FOR DEVELOPMENT

## India Human Development Survey Forum | February 2026

A monthly update of socio-economic developments in India by the IHDS research community

## Gender Heterogeneity in Secondary School Dropout due to Financial Shocks: Evidence from India

*Soumik Biswas, Kaushik Bhattacharya*



The paper makes a unique contribution by examining whether negative financial shocks are associated with secondary school dropout among boys and girls in India. Using logistic regression on data from the India Human Development Survey Round I (2004–05) and Round II (2011–12), the study finds that the relationship between gender and dropout varies by the type of shock experienced by the household. Despite lower secondary school dropout rates among girls overall, they are more likely to drop out in households that incurred large marriage expenses or experienced multiple shocks. In contrast, boys are more likely to drop out when households face earning compulsions arising from illness, accidents, or death. Interestingly, crop failure is negatively associated with boys' dropout. The results remain robust across linear probability models, controls for birth order, and entropy-balanced data. These findings move the evidence closer to establishing a causal link between financial shocks and school dropout in India and highlight the need for targeted policy interventions to ensure secondary education for all in the face of multiple economic shocks.

**Table 1:** Estimated AMEs of Variables of Interest in Logit Models on Dropout of Students from Secondary School Education

| Prob(Y=1) | Dependent Variable Y: Whether an Individual in the sample dropped out of education after standard eight and before completion of standard 12? (1: "Yes", 0: "No") | | | |
| --- | --- | --- | --- | --- |
| | Model 1 | | Model 2 | |
| **Variable Description** | **Girl** | **Boy** | **Girl** | **Boy** |
| Large amount of expenditure/loss or Shock due to illness /Accident (Dummy) | 0.001 (0.011) | 0.022 (0.011)** | - | - |
| Large amount of expenditure/loss or Shock due to Drought, Flood, Fire, etc (Dummy) | 0.016 (0.018) | -0.007 (0.019) | - | - |
| Large amount of expenditure/loss or Shock due to Loss of Job (Dummy) | -0.004 (0.028) | 0.02 (0.027) | - | - |
| Large amount of expenditure/loss or Shock due to Marriage (Dummy) | 0.053 (0.01)*** | 0.026 (0.011)** | - | - |
| Large amount of expenditure/loss or Shock due to Crop failure (Dummy) | -0.001 (0.014) | -0.039 (0.014)*** | - | - |
| Large amount of expenditure/loss or Shock due to Death (Dummy) | 0.008 (0.013) | 0.025 (0.013)* | - | - |
| Large amount of expenditure/loss or Shock due to Other reason (Dummy) | -0.022 (0.031) | 0.001 (0.026) | - | - |
| Household experienced one Shock (Dummy) | - | - | 0.032 (0.011)*** | 0.006 (0.01) |
| Household experienced more than one Shock (Dummy) | - | - | 0.045 (0.012)*** | 0.024 (0.013)* |
| AIC | 15031.97 | | 15065.7 | |
| Pseudo R square | 19.12% | | 18.74% | |
| **Observations** | **20156** | | **20156** | |

Source: Author's calculations based on IHDS I (2004-05) and IHDS II (2011-12).
Notes: (a) This table reports the Average Marginal Effect (AME) of specific and aggregate financial shocks due to a large amount of expenditure or loss estimated for Girls and Boys separately on estimated logistic models with model-robust standard errors where survey weights are used, standard errors of marginal effects are inside the parenthesis, under each model the first column depicts AME of the shock variable estimated for Girl (at GIRL =1) and the second column for Boy (at GIRL =0 ); (b) ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$; (c) control variables used are described in the analytical framework section of the paper; (d) State fixed effects as control are used in both models with Uttar Pradesh as the reference state (secondary school dropout rate in Uttar Pradesh (16.85% ) is near the Overall average of 16.77%).

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# About the Authors

**Soumik Biswas** has an academic background in Instrumentation Engineering from Jadavpur University, Kolkata. He holds a Postgraduate Diploma in Management and a Ph.D. in Business Environment from the Indian Institute of Management, Lucknow. His research interests lie in development economics, with a special focus on education.

**Kaushik Bhattacharya** is currently a faculty member at the Indian Institute of Management, Lucknow. He is an alumnus of the Indian Statistical Institute, completed his postdoctoral research at the University of Bonn, and worked for over a decade in the Statistics and Monetary Policy Departments of the Reserve Bank of India. He has also served as a Visiting Research Fellow at the Bank for International Settlements and was a recipient of a DAAD fellowship. His research focuses on applied econometric issues, including those that can be examined using the IHDS dataset.

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# For Reducing Premature Adult Mortality in India, Education Matters More than Income

*Moradhvaj Dhakad, Erich Striessnig, Nandita Saikia, Samir K.C., Wolfgang Lutz*

Due to progress in reducing infant mortality, the global agenda for preventing premature mortality in recent years has increasingly shifted its focus to adults. While there is substantial evidence on the role of socioeconomic factors in reducing infant mortality, the determinants of adult mortality risk remain under-researched. Using nationally representative, longitudinal data from the India Human Development Survey, the study systematically assesses the role of education in comparison to wealth in explaining mid-age (15 to 59 years) mortality differentials in India, where nearly one-fifth of global adult deaths occur.

The findings suggest that the protective effect of education far exceeds that of wealth. In addition to the direct effect of individual-level educational attainment, the study identifies a significant protective effect of education at the community level, particularly for women. Based on these results, it is inferred that educational attainment is crucial for reducing mid-age mortality in India. Therefore, population and health policies in developing countries should prioritize education as a key strategy for preventing adult mortality.

**Figure 1:** Percentage of men and women dying in mid-age between 2004–05 and 2011–12 by educational attainment and economic status (in 2004–2005)
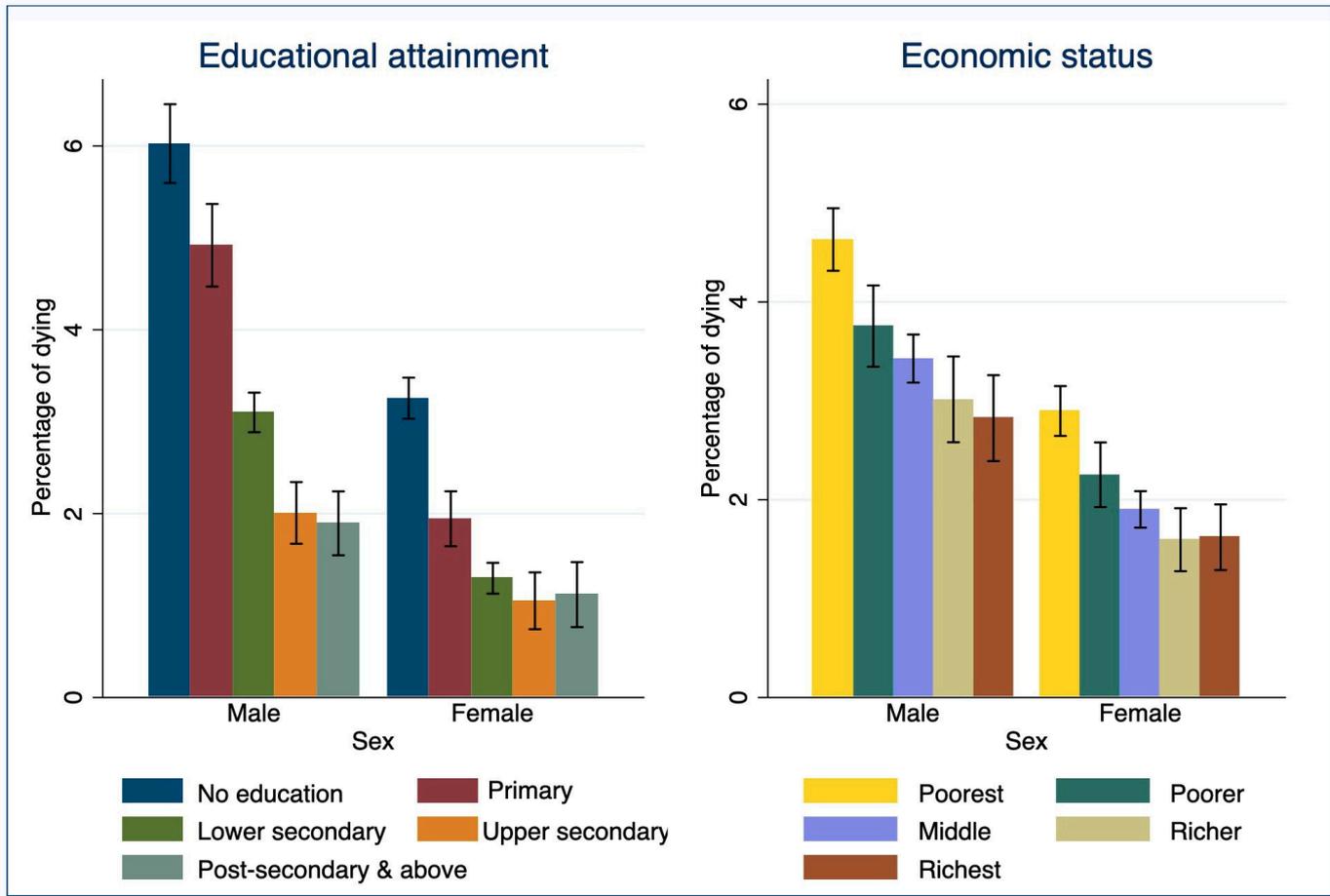


Source: Author's calculations based on IHDS I (2004-05) and IHDS II (2011-12).
Note: Vertical lines indicate 95% CI.

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## About the Authors

**Moradhvaj Dhakad** is a Postdoctoral Research Scientist and Marie Skłodowska-Curie Research Fellow at the Max Planck Institute for Demographic Research, Germany. His research focuses on health, mortality and population projections. He previously served as a Research Scientist at the Austrian Academy of Sciences and as a Research Scholar at IIASA. He also completed a postdoctoral fellowship at the University of Vienna.

**Erich Striessnig** is an Associate Professor at the University of Vienna and the Deputy Head of its Department of Demography. He is also a Senior Researcher in the Population and Just Societies (POPJUS) Program at the International Institute for Applied Systems Analysis (IIASA). His research focuses on the development of multidimensional population projections and their application to questions of social transformation arising from demographic metabolism.

**Nandita Saikia** is a Professor of Public Health and Mortality Studies at the International Institute for Population Sciences (IIPS), Mumbai. She previously served as an Assistant Professor in Population Studies at the Jawaharlal Nehru University (JNU), New Delhi. She was Postdoctoral Fellow at IIASA, Austria (2017–2019) and Max Planck India Fellow at MPIDR, Germany (2012–2015). A TAG member of UN IGME, she has received several prestigious awards, including the Raja Rao Award (ISI, 2014), the P.N. Mari Bhat Medal, (IIPS Mumbai), the Queen Elizabeth Fellowship at the University of Toronto, the Marie Balticum Fellowship at the University of Rostock, and the RSSS Fellowship at ANU. She has supervised 26 PhD scholars and has held several administrative positions.

**Samir K.C.** is a Senior Research Scholar at the International Institute for Applied Systems Analysis (IIASA), affiliated with the Population and Just Societies (POPJUS) Program. He is also Professor and founding member of the Asian Demographic Research Institute at Shanghai University. He earned his PhD from the University of Groningen. His research focuses on multidimensional population modelling, human capital, and differential vulnerability, with publications in leading international journals.

**Wolfgang Lutz** is Founding Director of the Wittgenstein Centre for Demography and Global Human Capital, a collaboration of the University of Vienna, the International Institute for Applied Systems Analysis, and the Austrian Academy of Sciences. A leading expert in global population and sustainable development, he has published widely and received major international honors, including the Wittgenstein Prize and two ERC Advanced Grants.

# Recent Publications Using IHDS Data

Barik, D., Banerji, M., & TIwari, D. K. (2026). Moving to a New Location for Work: How Easy Is It to Get It Right? In K. Keshri, S. I. Rajan, & K. Gaur (Eds.), COVID-19 and Labor Migration in India (1st ed., pp. 18). Routledge India

Dhak, B. (2026). Migration, Agrarian Change, and Gender Implications. In K. Keshri, S. I. Rajan, & K. Gaur (Eds.), COVID-19 and Labor Migration in India (1st ed., pp. 14). Routledge India.

Dhakad, M., Striessnig, E., Saikia, N., K. C., S., & Lutz, W. (2026). For Reducing Premature Adult Mortality in India, Education Matters More than Income. Proc. Natl. Acad. Sci. U.S.A. 123 (6); e2503809123.

Das, S., & Anowar, S. (2026). A Co-Relative Approach between Family Issues and Gender Equality in Contemporary Indian Society. In S. Das, S. Das, & A. K. Panigrahi (Eds.), Gender Equality and Progress in the 21st Century (pp. 163-175).

Kidd, S., Raj, D., & Athias, D. (2026). Adding Life to Years: A Review of Tax-Financed Pensions in the AsiaPacific Region. Development Pathways & HelpAge International.

Prakash, A., & Yadav, I. S. (2026). The Gender Wage Gap in India: A Quantile Regression Analysis of Discrimination and the Sticky Floor Effects. Journal of Social and Economic Development.

Paul, P. (2026). Persistent Child Marriage Practices in West Bengal: Understanding the Role of Household Wealth and Education. Indian Journal of Human Development, 0(0).

Roy, S. (2026). Does Economic Class Affect Educational Achievement in India? Indian Journal of Human Development, 0(0).

Van Duijne, R. J. (2026). What Is the Size of India's Domestic Remittance Flows? The India Forum.

# About IHDS

The India Human Development Survey (IHDS) began as a nationally representative, multi-topic survey of 41,554 households in 1,503 villages and 971 urban neighbourhoods across India. The first round of interviews were completed in 2004-05; the Data is publicly available via ICPSR. The second round re-interviewed most of these households in 2011-12 (N = 42,152), and data for the same are available via ICPSR. Fieldwork for IHDS-III was undertaken in 2022-24, and data is currently being cleaned and processed.

The IHDS-III has been jointly conducted by researchers from the University of Maryland, the National Council of Applied Economic Research, Indiana University and the University of Michigan.

## IHDS Principal Investigators

| **Sonalde Desai** | **Feinian Chen** | **Amaresh Dubey** | **Keera Allendorf** | **Sharan Sharma** |
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