INDIA HUMAN DEVELOPMENT SURVEY

April 2020

Welcome to the India Human Development Survey Forum

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

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In This Issue...

This edition of the IHDS newsletter focuses on the key theme of household cooking fuel and its association with both gender and health concerns.

- *In the first paper, the authors use IHDS data to highlight the important role played by intra-household gender inequalities in shaping the household decision to invest in clean fuel. They find that the use of clean fuel influences women's access to salaried work and control over household expenditure decisions.*

- *The second paper analyses findings from IHDS to assess the health impacts of the use of traditional fuels. The authors aver that households having access to improved chulhas running on traditional fuel are less likely to be exposed to diseases as compared to those using traditional chulhas with traditional fuels.*

- *Recent publications using IHDS*

Gender Inequalities and Household Fuel Choice in India

Pallavi Choudhuri and Sonalde Desai

The use of solid cooking fuels—wood, straw, crop residue, and cow-dung cakes—is associated with higher levels of environmental pollution and health burden. However, even in an era when incomes have grown and poverty has declined, the proportion of Indian households using clean cooking fuels such as kerosene or Liquefied Petroleum Gas (LPG) has increased only slightly. Even among the wealthiest quintile, only about 40 per cent of the households rely solely on clean fuel. Since the chores of cooking and collection of fuel remain primarily the domain of women, this paper argues that intra-household gender inequalities play an important role in shaping the household decision to

invest in clean fuel. Analyses using data from the India Human Development Survey (IHDS), a panel survey of over 41,000 households conducted in two waves in 2004-05 and 2011-12, respectively, show that women's access to salaried work and control over household expenditure decisions is associated with the use of clean fuel.

Table 3: Average Marginal Effect for Clean Fuel Usage using alternate measures of Women's Autonomy

Dependent variable: Fuel (clean only)	Autonomy Indicator: Salaried or Business		Autonomy Indicator: Decision (any expenses)	Autonomy Indicator: Mobility (any)
	Column I	Column II	Column III	Column IV
Autonomy indicator for eligible woman in the household	0.0259***	0.0136**	0.0185***	-0.007
	-0.0072	-0.00684	-0.00708	-0.007
Annual Household Income 2004-05 (log)* [unearned only for Model I]	0.0303***	0.0346***	0.0354***	0.0348***
	-0.0028	-0.00304	-0.00304	-0.00303
Controls variables	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes
Observations	20,345	34,473	20,726	20,726
Wald chi2(43)	2993.83	5092.89	3133.33	3078.06

Notes: (a) Authors' computation based on IHDS II data, 2011-12. Coefficients reflect population-averaged marginal effect (probability) from logistic regressions for each specification. All results use delta-method standard errors in parentheses, with *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Observations were weighted using eligible women weights to reflect the 2011 Indian population. The dependent variable, clean fuel, comprises of LPG and kerosene used for cooking. Control variables: eligible woman's age and education, whether household owns farm, livestock, electricity, BPL ration card, caste and religion group of household, number of adult female members in household, type of village. (b) Column I uses eligible women's unearned income, whereas columns II, III, and IV use total household income belonging to eligible woman's household.
Source: Choudhuri and Desai (2020). Gender inequalities and household fuel choice in India, Journal of Cleaner Production https://doi.org/10.1016/j.jclepro.2020.121487

Full paper here

Pallavi Choudhuri is a Fellow, working with the NCAER National Data Innovation Centre. Her current research delves into issues related to inequality, development, and gender, using applied micro-econometric techniques. Previously at NCAER, she worked on examining challenges to skill development and workforce participation as part of the New Skills At Work India initiative. Prior to joining NCAER, Pallavi taught courses in Economics and Finance at the Grand Valley State University as a Visiting Assistant Professor and at the University of Wyoming as a (graduate) Instructor. She has a PhD in Economics from the University of Wyoming and Masters in Economics from Calcutta University.

Sonalde Desai is Professor at University of Maryland and at NCAER, and Director of NCAER's National Data Innovation Centre. She is a demographer whose work deals primarily with social inequalities in developing countries with a particular focus on gender and class inequalities. She studies inequalities in education, employment and maternal and child health outcomes by locating them within the political economy of the region. While much of her research focuses on South Asia, she has also engaged in comparative studies across Asia, Latin America and Sub Saharan Africa. She has published articles in a wide range of sociological and demographic journals including *American Sociological Review, Demography, Population and Development Review* and *Feminist Studies*. She leads the India Human Development Survey.

Impacts of Traditional Cooking Fuels on the Prevalence of Ailments in India

Rahul Ranjan and Kausik K. Bhadra

Using data from the India Human Development Survey (IHDS), this paper examines the impact of the use of traditional fuels on health. The authors' analyses reveal that the use of traditional fuel is significantly associated with the prevalence of short-term and long-term ailments. Subsequently, a probit estimation is used to measure how socio-economic and demographic factors influence the prevalence of short-term and long-term ailments resulting from the use of cooking fuels. The authors find that households having separate kitchens have a lower probability of contracting diseases than households without kitchens. If a household uses an improved *chulha* with traditional fuel, the prevalence of diseases will be less likely vis-à-vis the usage of a traditional *chulha* with the traditional fuel.

Figure 1: Prevalence of long-term diseases by the types of cooking fuel among persons aged 20 years and older: Evidence from IHDS-II Data
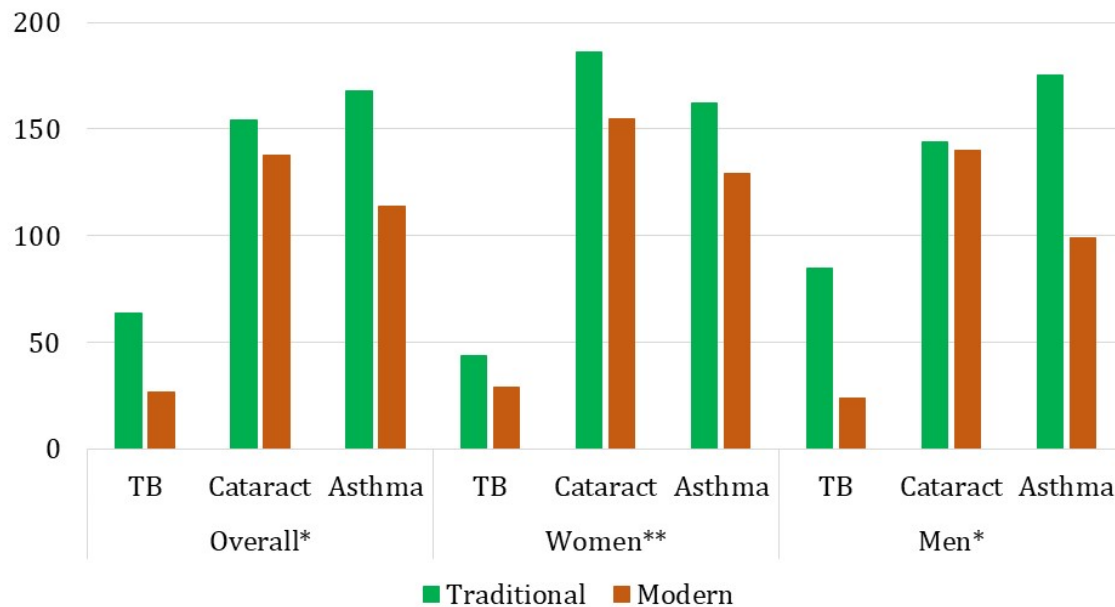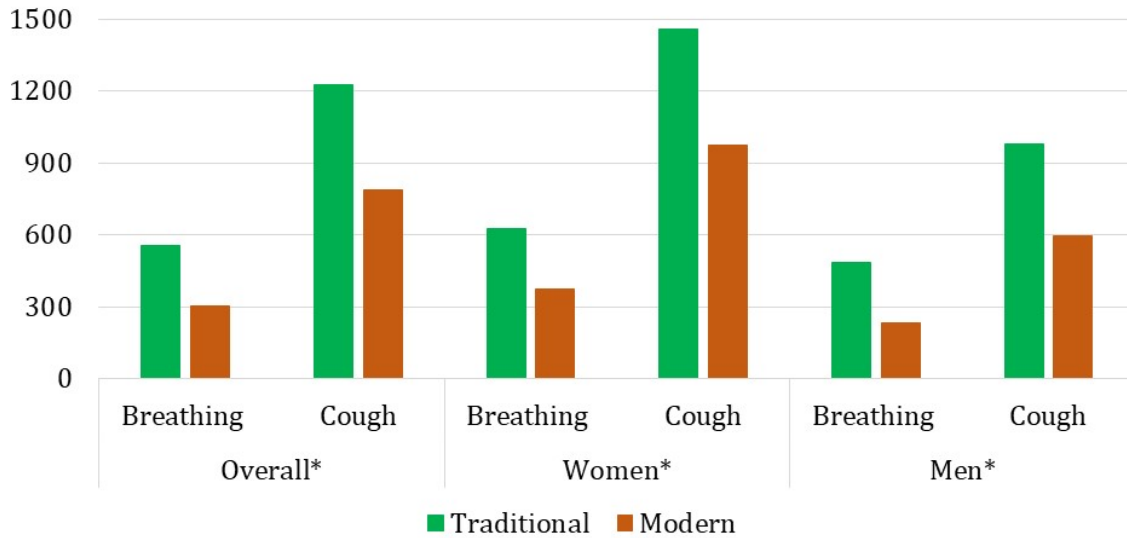
Source: Authors' computations from IHDS-II
Note: *** $p \leq 0.01$, ** $0.01 < p \leq 0.05$, * $0.05 < p \leq 0.10$

Figure 2: Prevalence of short-term diseases by type of cooking fuels among persons aged 20 years and older: Evidence from IHDS-II Data

Source and Note: Same as Figure 1

Full paper here

Rahul Ranjan is a Senior Research Associate at the Institute for Human Development, New Delhi. He has been pursuing PhD at Jawaharlal Nehru University, New Delhi, with his thesis on "Cooking Energy Consumption and Women's Health in Rural India". Earlier, he has also worked with the Competition Commission of India (CCI), and Integrated Research Action for Development (IRADe). His primary research interests are in the Indian labour market, development economics, and domestic energy consumption. He has presented research papers at various national and international conferences, and has published in a number of journals.

Kausik K. Bhadra is a Consultant with International Budget Partnership, New Delhi. He has more than ten years of experience in the field of economics, with his areas of research interest being public finance and policy, fiscal federalism, decentralised public service delivery, public health, and sports financing. He has presented papers at various national and international conferences and has published in several reputed journals and edited volumes. He received his PhD from Ambedkar University, New Delhi.

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About IHDS

The India Human Development Survey (IHDS) is a nationally representative, multi-topic survey of 41,554 households in 1503 villages and 971 urban neighbourhoods across India. The first round of interviews was completed in 2004-05; data are publicly available through ICPSR. A second round of IHDS re-interviewed most of these households in 2011-12 (N=42,152) and data for the same can be found here.

IHDS has been jointly organised by researchers from the University of Maryland and the National Council of Applied Economic Research (NCAER), New Delhi. Funding for the second round of this survey is provided by the National Institutes of Health, grants R01HD041455 and R01HD061048. Additional funding is provided by The Ford Foundation, IDRC and DFID.

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