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**Impact of WASH facilities on children schooling.  
Does Household head gender matter? Some empirical evidence from India**

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**Impact of WASH facilities on children schooling.  
Does Household head gender matter? Some empirical evidence from India**

**ABSTRACT:** Access to Water, sanitation and hygiene (WASH) facilities to every household is one of the Sustainable Development Goals (SDGs). Given the paramount importance of WASH, this paper investigates the impact of household head gender and WASH provisions on children's schooling attainment. Using nationally level representative data, our results show that children in female headed households attain more schooling as compared to male headed households given the WASH facilities. Robustness checks have been carried out using different definitions of WASH, available in the literature and results are consistent. This further shows that female household head is more concerned, compared to male, about the WASH provision in the household.

**Keywords:** Water, Sanitation, Hygiene, Household Head, Gender, Inequality, India, Schooling

## INTRODUCTION

Sustainable Development Goal (SDG) 6 presses the need to provide access to safe and affordable drinking water and sanitation (abbreviated as WASH) to all the deprived section. Enactment of WASH as SDG is testament to the fact that it is critical for the human development on various fronts with likes of health, education, inequality, and poverty. India has come a long way from rural sanitation coverage of 1% in 1980s to 96% in 2019 (11th five-year plan, chapter 3, pp78-79). Over the last two decades, the focus of Government of India (GOI) has been shifted towards water, sanitation, and hygiene (WASH) policies, resulting in introduction of policies like Total Sanitation Campaign and Swachh Bharath Abhiyan to name the few. This has led to a sharp decline in open defecation in India. India became the top contributor in reduction of open defecation and hence improving its sanitation profile on WASH front (UN-WHO/JMP, 2019). However, access to drinking water and hygiene is still to catch up with households. Various policies have been implemented to fill this gap in past five years like NRDWP, Swajal scheme and Jal Jeevan Mission to name a few.

School attainment of children have strong interlinkages with WASH (Zu and Xang, 2016). A large section of society in low and middle income countries still lacks wash facilities (UN-WHO/JMP, 2019). Children with no or poor access to WASH facilities are at risk of getting sick (Njoh. et.al. 2016). These children's cognitive skill is low (Adukia, 2017).

Research done on the inter-linkages between parental schooling and child educational attainment is well established. In general, parental schooling improvement leads to gains in their children schooling attainment. However, there are gendered differences on the magnitude of educational attainment (Tansel A., 1997, 2002). Improving mother's schooling bridges the gap between son's education and daughter's education, hence reducing gender inequality (Afridi, 2010).

Power dynamics in decision making at household level is driven by many characteristics like culture, education, age, society, and gender. Sustainable development goal 5 advocates for reducing gender equality in India, female headed household are less as compared to male, indicating the male dominance in society (Meenakshi and Ray, 2002). Setting the stage, we have made an attempt to analyze the effect of the gender of the household head on children schooling attainment level in the presence of WASH facilities.

## **DATA, MODELING, ESTIMATION**

We have used the National Sample Survey (NSS) 76th round. It is a nationally representative cross-sectional data of India, collected in six months of the year 2018 (from July – Dec 2018), having a sample size of 106838 households and 466527 individuals. The data contains information about demographic variables like age, religion, social group, education level, usual principal activity status etc., drinking water facilities available to households like principal source of drinking water, distance to the source of drinking water and who fetches it etc. The data has the information about the sanitation related information captured by asking respondents questions like whether the household has access to both bathroom and latrine within the household, whether they have an access to latrine and if they use it, reasons for not using it. This survey also captures the hygiene level of an individual by asking questions like hand wash before meal and after defecation and what is it that they use for hand wash (soap/detergent/sand/mud/ash or only water), whether water is available near latrine. Above and beyond this, there are household level information as well (for e.g., dwelling status of households, floor type, roof type, drainage system of the household etc.). All the States and Union Territories except Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli and Lakshadweep have been covered in this round. The main objective of considering this particular round is twofold. First, it is the latest round, on Drinking Water, Sanitation, Hygiene and Housing Condition (henceforth DWSHH), which is in public domain. Second, this is the first nationally representative DWSHH data available at an individual level. In addition to this, many questions like usual monthly consumption expenditure (henceforth

MPCE), occupation of the individuals, distance travelled to fetch the water by gender, has been asked for the first time. All these information makes the dataset novel and thereby worth exploring.

Our outcome variable is the schooling attainment level of children. The children include only the married and unmarried child of the household. It measures the highest level of education received by the person. Our main intent in this paper is to measure the effect of the WASH on children schooling attainment through the lens of household head gender. Apart from the main variables listed above, we also have used controlled for demographic variables and household level variables.

## **FINDINGS**

Main findings reveal that drinking water, sanitation and hygiene, our results show that children in female headed households attain more schooling as compared to male headed households given the WASH facilities. Robustness checks have been carried out using different definitions of WASH, available in the literature and the results are consistent. This further shows that female household head is more concerned, compared to male, about the WASH provision in the household.

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