



# POLICY BRIEF



Photo: *Not in Focus: Stories from Ahmedabad Slums*, A Photo Exhibition (Curator: Amit Patel, Photographer: Ankit Bansal).

## How Climate Change and Environmental Degradation Hurts Women More Than Men in Slums of South Asia.

In the wake of growing environmental degradation and climate change effects, the livelihoods and wellbeing of slum residents in South Asia are increasingly under threat. Research finds that women who reside in slum communities are disproportionately impacted by environmental conditions and climate shocks compared to their male counterparts.

### WHAT'S AT STAKE?

Rapid urbanization in the global South has resulted in the growth of slums in many cities. Over half of the world's population now lives in urban areas, and nearly a quarter of these individuals reside in slums (UN-HABITAT 2012; United Nations 2014).

Environmental degradation, characterized by a reduction in the capacity to meet social and ecological needs, combined with extreme climate events such as flooding and heat waves, have severe impacts on slum residents in the form of increased daily hardships, reduced household incomes, lost assets and increased debts.

### KEY RESULTS

- Women control far fewer resources than men in slums in India, Bangladesh and Pakistan.
- Women bear a disproportionate burden of environmental degradation and climate change events in both direct and indirect ways.
- The effects of environmental and climate shocks on women's empowerment are context specific and vary across countries.

How do women slum residents experience climate change and environmental degradation compared to men? There is an extensive body of literature on environmental degradation and climate-induced risks in slums, including studies in South Asia where 35% of the urban population resides in slums. However, only a handful of these studies focus specifically on links between environmental degradation and women's empowerment (e.g. Jahan 2008; Fisher 2008; Hazarika 2010; Nasrin 2012), and most rely solely on reviews of existing literature, program evaluations, or secondary datasets.

To better understand the links between environmental degradation and women's empowerment in South Asian slums, researchers from University of Massachusetts Boston, LEAD Pakistan and the Urban Institute surveyed 1,199 slum households in 12 slums from India, Bangladesh and Pakistan, and conducted semi-structured interviews with residents and policy experts. Using study data, they created two indices for systematically measuring men's and women's empowerment: the Women's Empowerment in Slums Index (WESI) and the Empowerment in Slums Index (ESI) that measure agency over individual and household decision-making, controlling resources, and safety. They further investigated whether environmental degradation and experience of climate change events were systematically associated with women's empowerment.

## RESEARCH APPROACH

Researchers used a mixed methods approach to examine men's and women's experiences with environmental degradation and climate shocks in South Asian slums. In the first stage of the research, survey data was collected from 1,199 households across 12 slums in four cities: New Delhi (India), Dhaka (Bangladesh), Islamabad and Lahore (Pakistan). The nuances underlying individuals' experiences were then explored through semi-structured interviews with 15 slum residents and ten or more policy experts from government, NGOs or academia in each of the study sites.

Researchers compiled study data using the Alkire-Foster Method (Alkire-Foster 2011) to create two indices for systematically measuring men's and women's empowerment: the Women's Empowerment in Slums Index (WESI) and the Empowerment in Slums Index (ESI). The WESI is comprised of 23 agency- and resource-related indicators of women's empowerment specific to the conditions in South Asian slums; it includes 18 indicators on which data was collected for both men and women (e.g. income, educational attainment, possession of government identification, household decision-making power), and five additional indicators for women only that had to do with knowledge, attitudes and experiences of gender-based

violence. The ESI included only those indicators tracked for both men and women, and was used for making comparisons between sexes from the same population. Researchers used the WESI and ESI datasets to perform multiple regression analyses and understand whether environmental degradation is associated with women's empowerment in each of the three countries.



## KEY FINDINGS

### **Women control far fewer resources than men in slums in India, Bangladesh and Pakistan.**

Study findings demonstrate that in all three countries women have lower incomes than men, are less likely to have decision-making power over their personal income than men, and spend a disproportionate amount of time on unpaid domestic and care work (e.g. cooking, childcare, cleaning, travelling to a toilet). Regional variations also exist. For instance, women in Bangladesh and Pakistan have less decision-making power over their own health care compared to women in India, and although women are underemployed compared to men in all three countries, Pakistani women are particularly highly unemployed (68.47%).

### **Women bear a disproportionate burden of environmental degradation and climate change events in both direct and indirect ways.**

Across all three countries, the lack of access to a toilet is negatively associated with empowerment for both men and women. Other factors disproportionately affect women, such as poor street conditions, shorter stay at current residence, and overcrowding in the home (more than 3 people living in a single room). Overcrowding can create additional problems for women by amplifying the amount of unpaid domestic and care work that they perform. Overcrowding of slum infrastructure is also known to increase women's vulnerability to gender-based violence in public spaces (McIlwaine 2013). Beyond the immediate physical impacts, climate change events also disrupt the common, often informal, forms of paid work for women, limiting their access to economic opportunities and earnings.

## **The effects of environmental and climate shocks on women's empowerment are context specific and vary across countries.**

In India, for example, the experience of climate change related torrential rain, lack of access to a toilet, poor drainage systems, the need to fetch water from a distant source, and overcrowding in the home significantly lowered women's empowerment. Whereas poor drainage system and flooding were associated with lower empowerment for women in Pakistan. In Bangladesh, lack of toilet, poor street conditions, and long distance to water were negatively associated with women's empowerment. Qualitative interviews with slum residents and policy experts further explain how context-specific variables present in each country may be the cause of divergent impacts for women; they point specifically toward differences in national policy responses and community planning frameworks for urbanization and slum growth.

## **POLICY INSIGHTS**

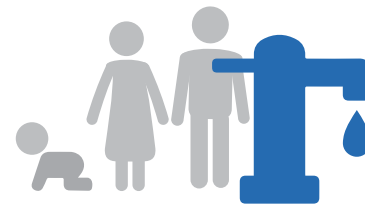
Environmental degradation is negatively associated with women's empowerment in India, Bangladesh and Pakistan alike, however, the specific effects differ significantly by country. This finding points to the potential of targeted and context-appropriate policies to address how slum residents experience and respond to environmental and climate shocks. Governments and decision-makers should consider the following:

### **Invest in basic infrastructure to reverse the trend toward disempowerment of slum residents, particularly women.**

Basic public infrastructure— such paved roads, drainage systems and piped water— can enhance the resiliency of slum communities to cope with environmental and climate shocks, and increase empowerment for all slum residents, but especially for women. For example, access to toilets and drainage systems can improve health and sanitation for households, and provide both men and women with more time for education, income generating activities and leisure. For women, access to such infrastructure can reduce the drudgery of unpaid domestic and care work, and increase economic opportunities and earnings.

### **Adopt gender-sensitive policies for climate change adaptation and mitigation.**

There is a growing need for climate change adaptation and mitigation measures in urban resilience strategies, with particular attention paid to the experience of slum residents. Women-focused policy-making and gender mainstreaming are essential to ensuring an equitable development process for both male and female slum residents as urbanization



and population growth continue. For example, overcrowding is known to increase women's vulnerability to gender-based violence in public spaces (McIlwaine 2013), and this should be recognized during disaster response interventions.

### **Opt for slum upgradation, not demolition.**

Slum upgradation processes are needed to achieve national and regional development objectives, including those set out in the New Urban Agenda developed by UN-HABITAT (2017). Governments should invest in slum upgradation as opposed to opting for demolition. Legally recognizing slums through notification (i.e. providing official government recognition as a slum community) and developing building codes and construction guidelines for slum areas are important first steps. Another important factor is to emphasize the public sector's role in community planning and housing development which is currently outsourced to the private or informal sector across much of South Asia. As vital regulatory and physical infrastructure is implemented, slum residents can establish tenure and social capital in their neighborhoods, and improve their resilience in the face of environmental degradation and extreme climate events.

### **Formalize data collection on slum populations and conditions.**

A key issue faced in this study is the lack of existing data for all 12 slums on important development indicators such as slum population, employment, household size, or access to services, and the absence of reliable mapping of non-notified slums. The needs of individual slums differ widely, and up-to-date data on slum populations and conditions can help planners to make targeted and context-appropriate policies to address localized concerns. One way to integrate slums into regular census data collection processes is through notification and official recognition.

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*This brief was authored by Patel, A., Lotia, H., Malik, A., Mundt, M., Lee, H. and M. Rafiq and designed by K. Grantham. It draws on key findings of the working paper, "[Empowering Women in South Asia's Slums: The Challenges of Environmental Degradation](#)."*



## References:

Alkire, S., & J. Foster. (2011). "Understandings and misunderstandings of multidimensional poverty measurement." *The Journal of Economic Inequality* 9(2): 289-314.

Fisher, J. (2008). "For her it's a big issue: putting women at the centre of water supply, sanitation and hygiene." *Water, Sanitation and Hygiene: Evidence Report*.

Hazarika, I. (2010). "Women's Reproductive Health in Slum Populations in India: Evidence from NFHS-3." *Journal of Urban Health* 87(2): 264-277.

Jahan, M. (2008). "The Impact of Environmental Degradation on Women in Bangladesh: An Overview." *Asian Affairs Journal* 30(2): 5-20.

McIlwaine, C. (2013). "Urbanization and gender-based violence: exploring the paradoxes in the global South." *Environment and Urbanization* 25(1): 65-79.

Nasrin, F. (2012). "Women, environment and environmental advocacy: Challenges for Bangladesh." *Asian Journal of Social Sciences & Humanities* 1(3): 149-172.

United Nations. (2014). *World Urbanization Prospects: The 2014 Revision, Highlights ST/ESA/SER.A/352*. New York: United Nations Department of Economic and Social Affairs, Population Division.

UN-HABITAT. (2012). *State of the world's cities: Prosperity of cities*. Geneva: United Nations.

UN-HABITAT. (2017). *New Urban Agenda (A/RES/71/256)*. New York: United Nations.

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