

What is the relationship between women's economic empowerment and basic water, sanitation, and hygiene (WASH) in the home?

Thiago Melo Santos

Federal University of Pelotas, Pelotas, Brazil / University of Melbourne, Melbourne, Australia

27 September 2024

Doctoral advisors:

Professor Aluísio JD Barros

Associate Professor Meghan A Bohren

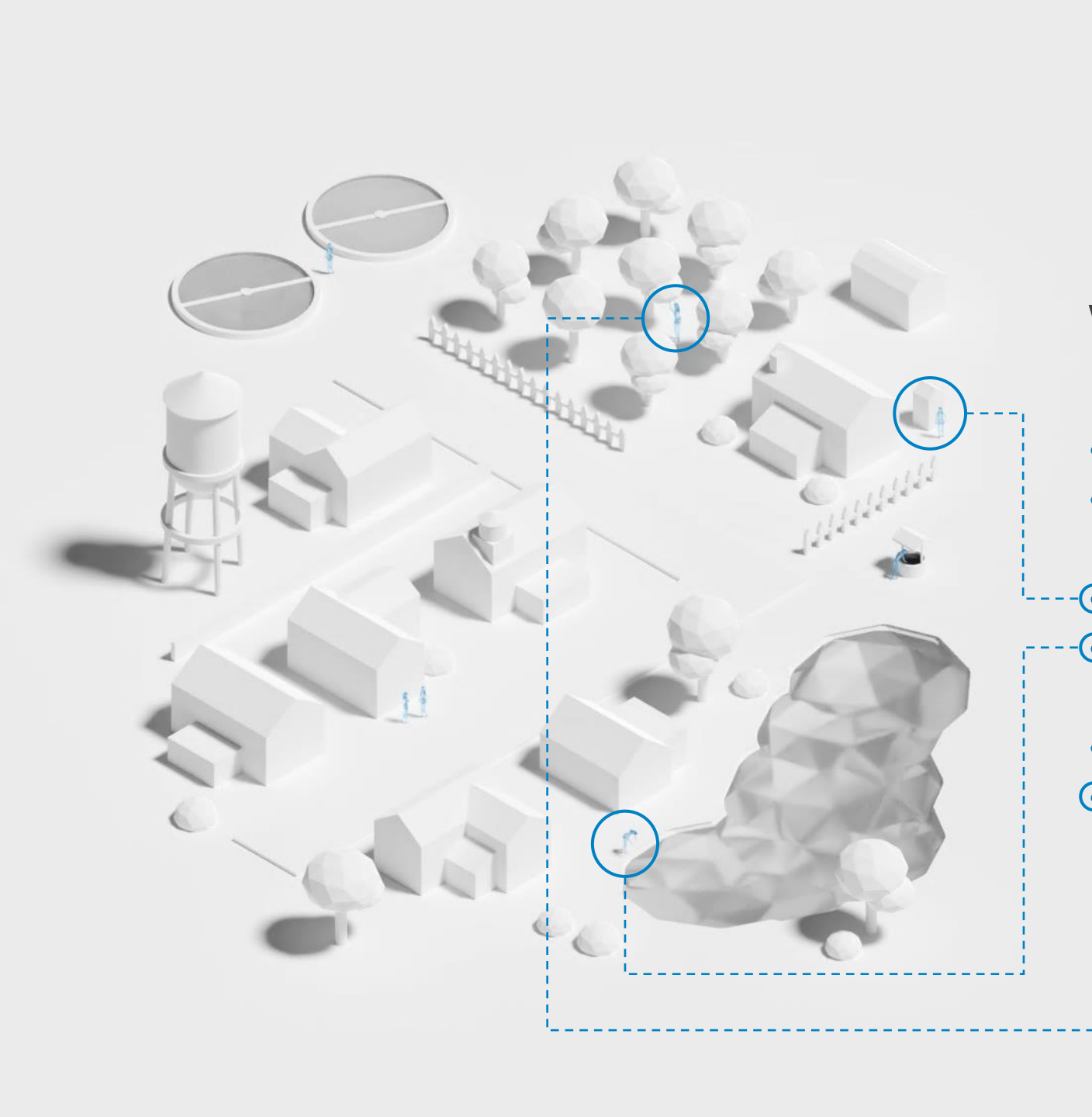
WCE

WORLD CONGRESS OF EPIDEMIOLOGY 2024



Women and WASH

- Disproportionate effect of lack of WASH
- Increased vulnerability to infection during menstruation and childbirth
- ⊙ Exposure to physical and sexual violence
- ⊙ Primarily responsible for water collection and WASH domestic labour
- Spinal injury and neck pain
- ⊙ Less time available for education and income-generating work



**WOMEN'S
EMPOWERMENT**



Discretionary time,
education, employment
and access to new roles

Control of economic
resources and
decision-making in
the household



WASH

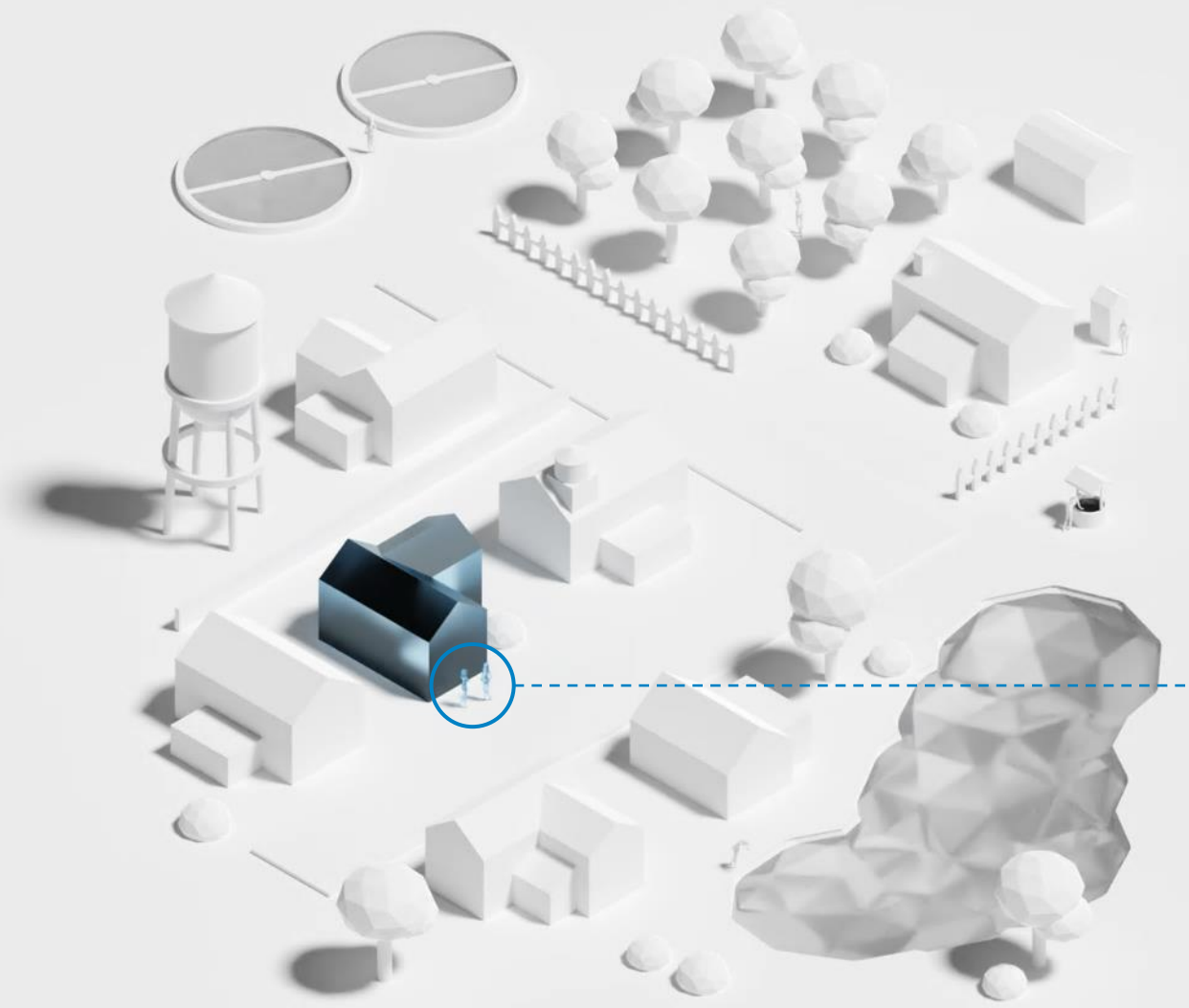


Evidence is sparse
and context specific



Objectives

- To create a **women's empowerment score** specifically related to economic autonomy and decision making in the context of LMICs
- To **investigate the association** between this women's empowerment score and access to basic WASH services in the household



① **31 Demographic and Health Surveys** (2010+) that collect information on basic WASH services and women's empowerment (married, aged 15–49 years)

WASH indicators



Basic water: improved water source with no more than 30 minutes for water collection



Basic sanitation: improved sanitation facility not shared with other households



Basic hygiene: handwashing facility with soap and water

Women's economic empowerment score



she has and uses a **bank account**

+



she has a **mobile** used for financial transactions

+



she has paid work and decides* on how to spend her earnings

+



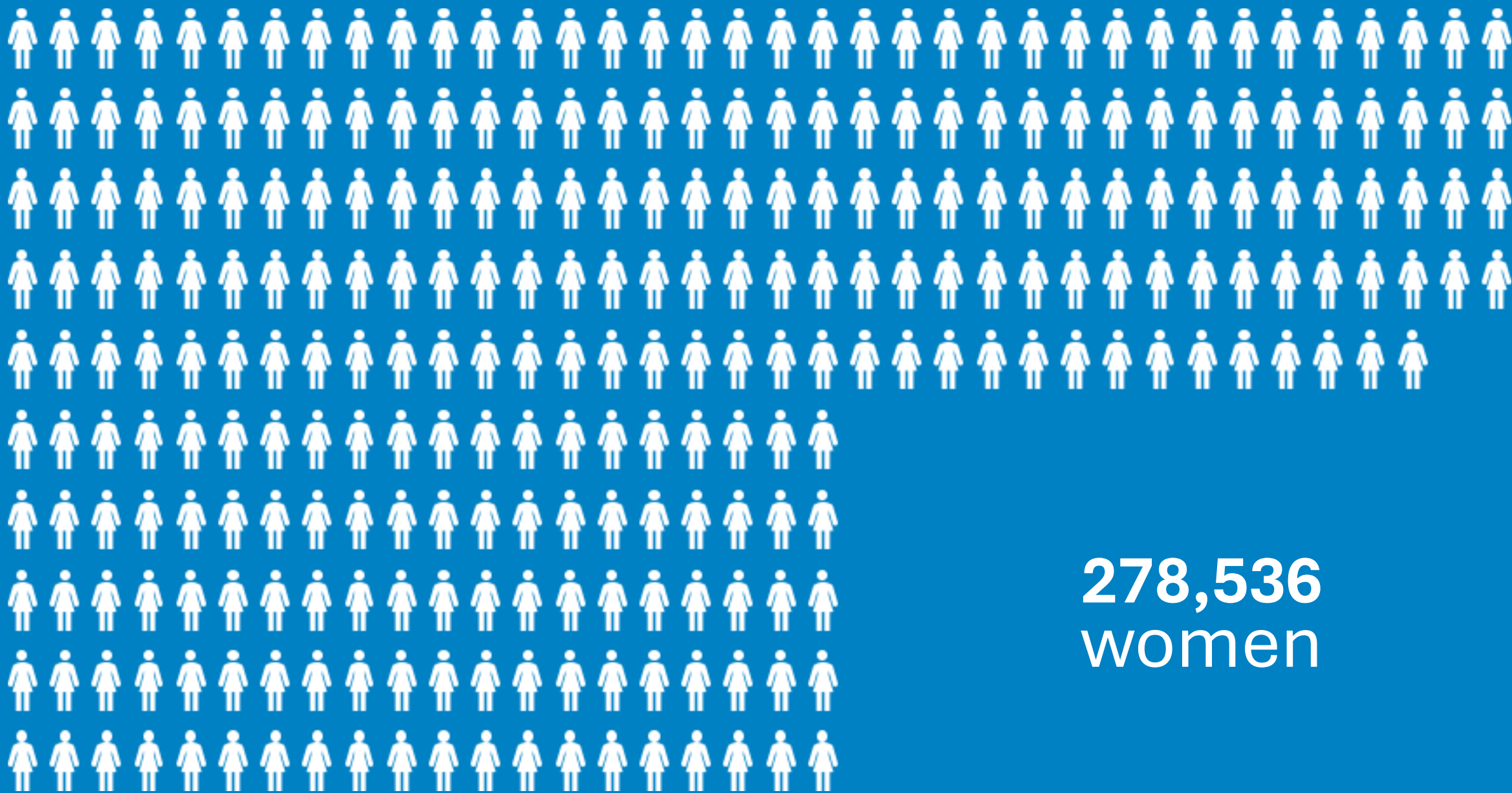
partner has paid work, and she decides* on how to spend his earnings

+



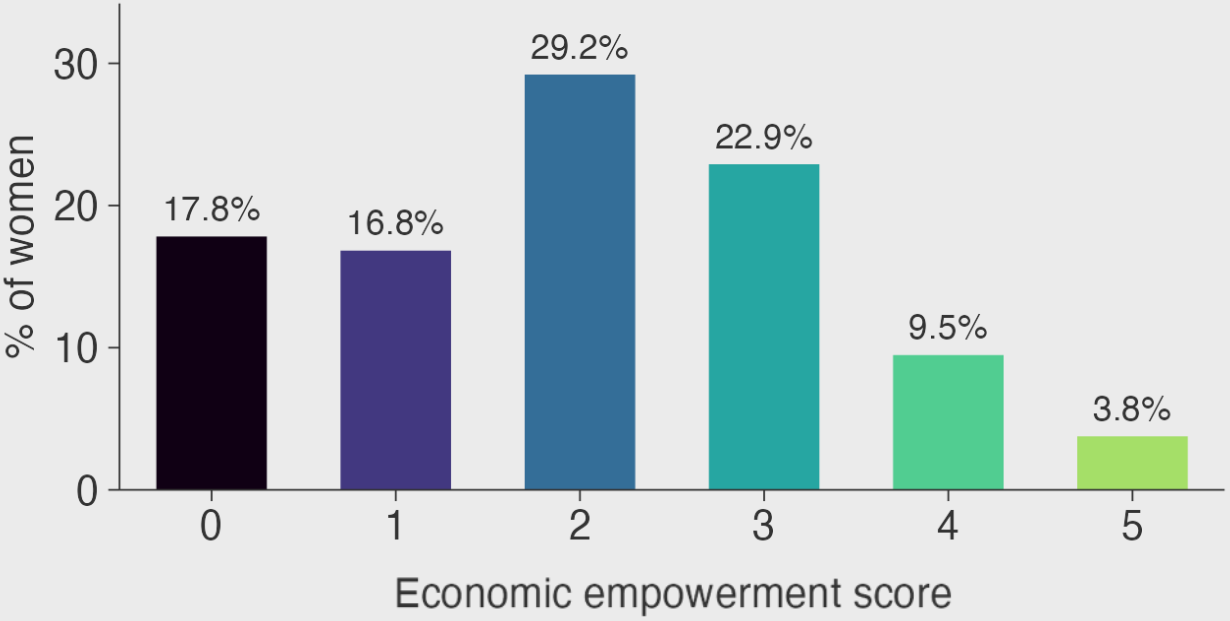
she participates in decisions about **major household purchases**


*alone or with her partner




278,536
women

17.8% of women had a score zero of empowerment



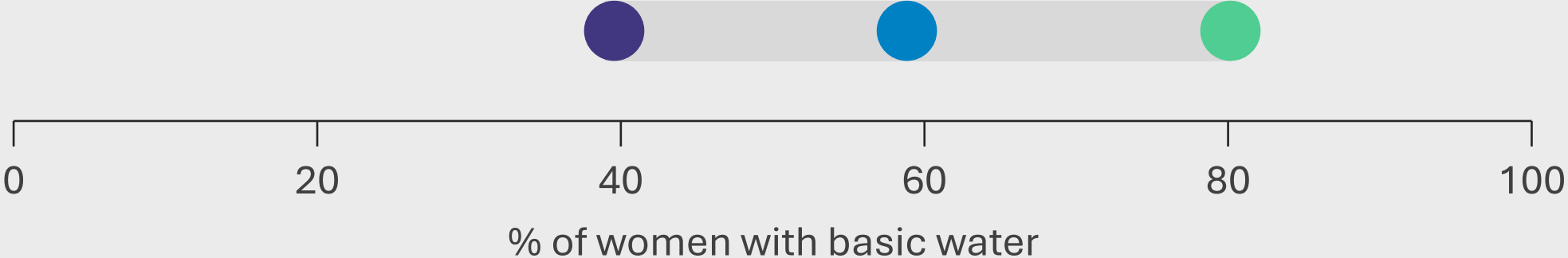
 **10%**
of the wealthiest women and

 **3%**
of the women with higher education had

score zero

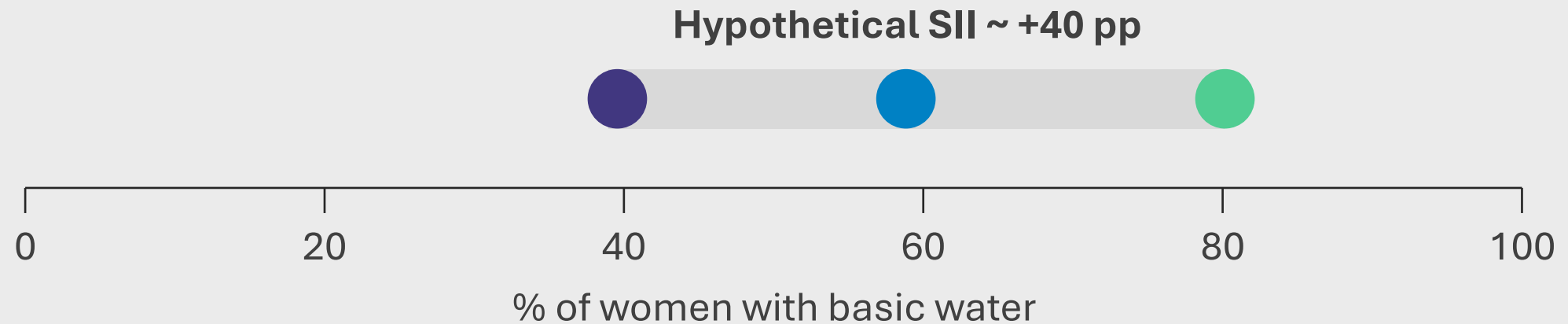
Equiplot: a plot designed for visualizing inequalities

Hypothetical example:



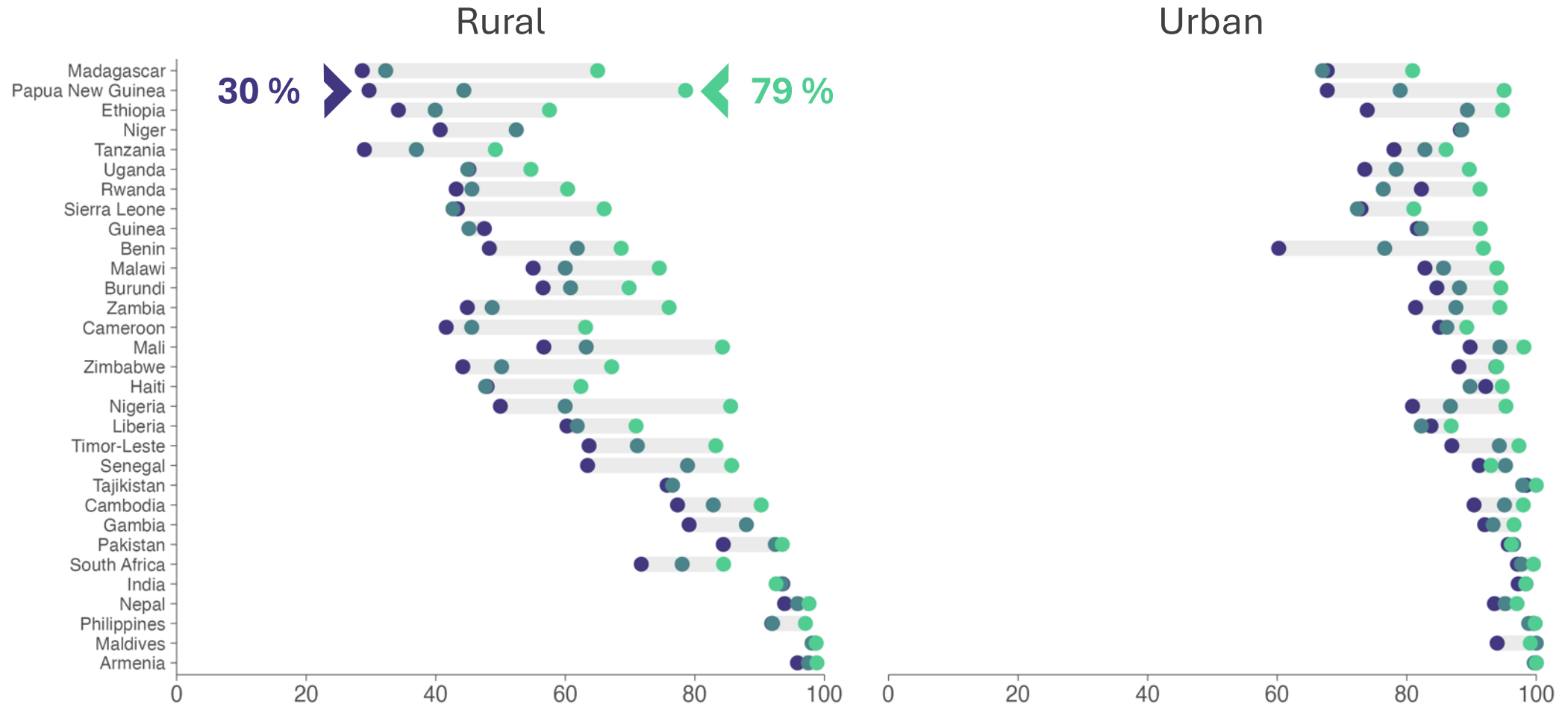
Empowerment score: ● Lower (0-1) ● Intermediate (2-3) ● Higher (4-5)

Slope Index of Inequality (SII): predicted difference in WASH prevalence between most and least empowered women (based on logistic regression)



Positive SII: better WASH for more empowered women

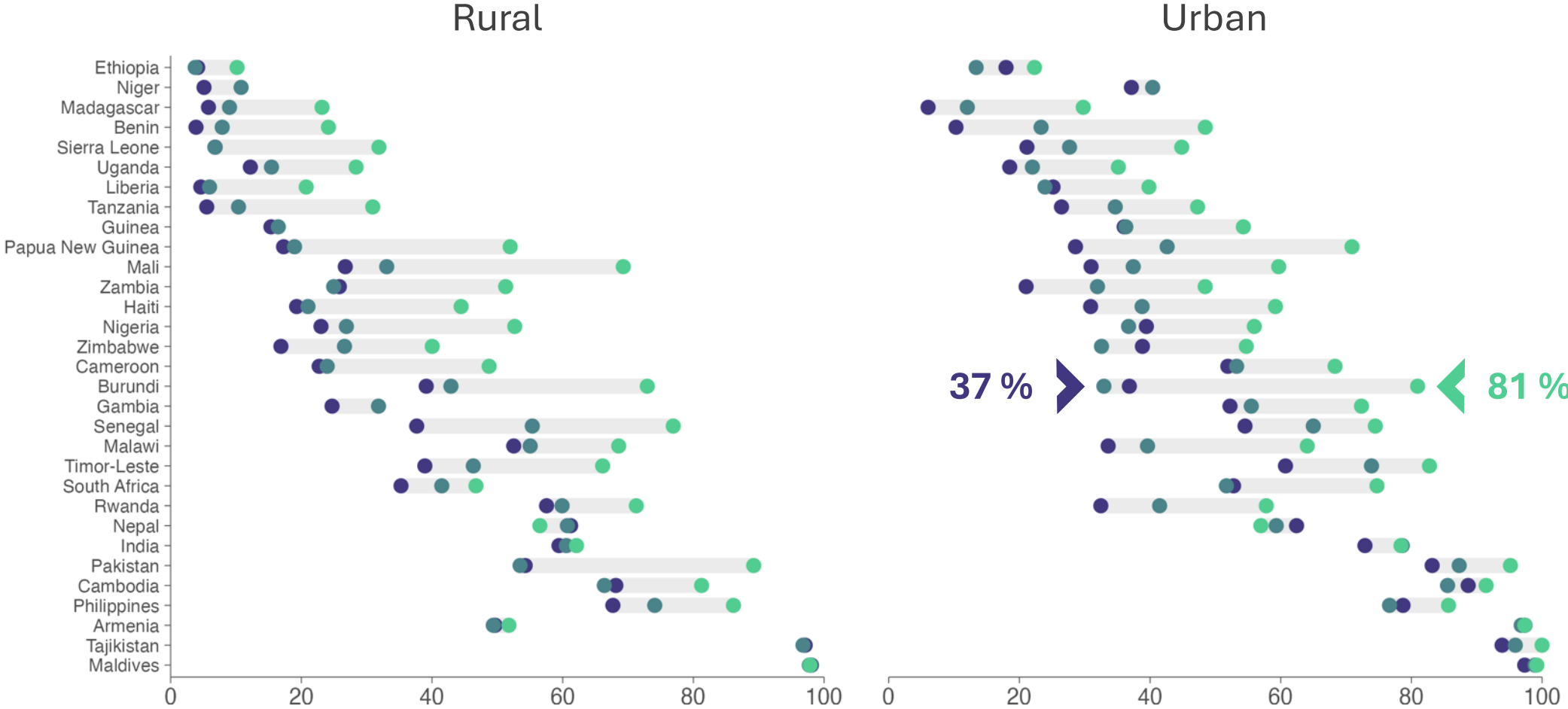
Water: median SII of +15 pp (rural) and +6 pp (urban)



% of women with basic water

Empowerment score: ● Lower (0-1) ● Intermediate (2-3) ● Higher (4-5)

Sanitation: median SII of +13 pp (rural) and +21 pp (urban)



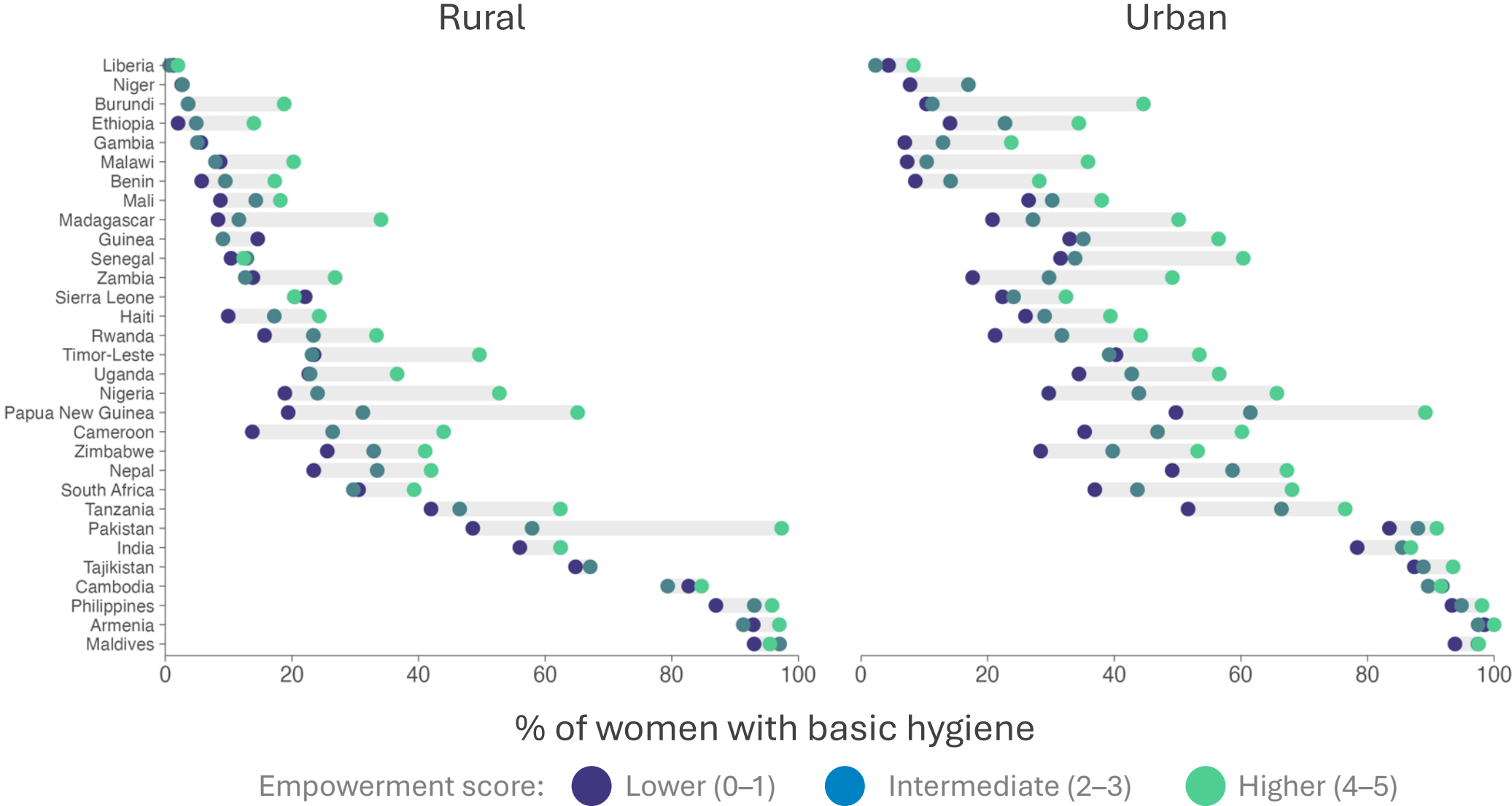
37 %

81 %

% of women with basic sanitation

Empowerment score: ● Lower (0-1) ● Intermediate (2-3) ● Higher (4-5)

Hygiene: median SII of +8 pp (rural) and +19 pp (urban)



KEY MESSAGES



more
economically
empowered
women tend to
live in households
with better WASH
services



large inequalities
throughout (even
larger for
sanitation)



our results add to
the growing body
of evidence of the
relationship
between WASH
and women's
empowerment



longitudinal
studies are
necessary to
investigate the
directionally and
confounding
structure of the
relationship

Acknowledgements

NOSSAL INSTITUTE
FOR GLOBAL HEALTH

BILL & MELINDA
GATES *foundation*

