Cross-Cultural Perspectives on Urban Sustainability and Health: Smart Solutions for Smart Cities in India

NIEHS Global Environmental Health Program

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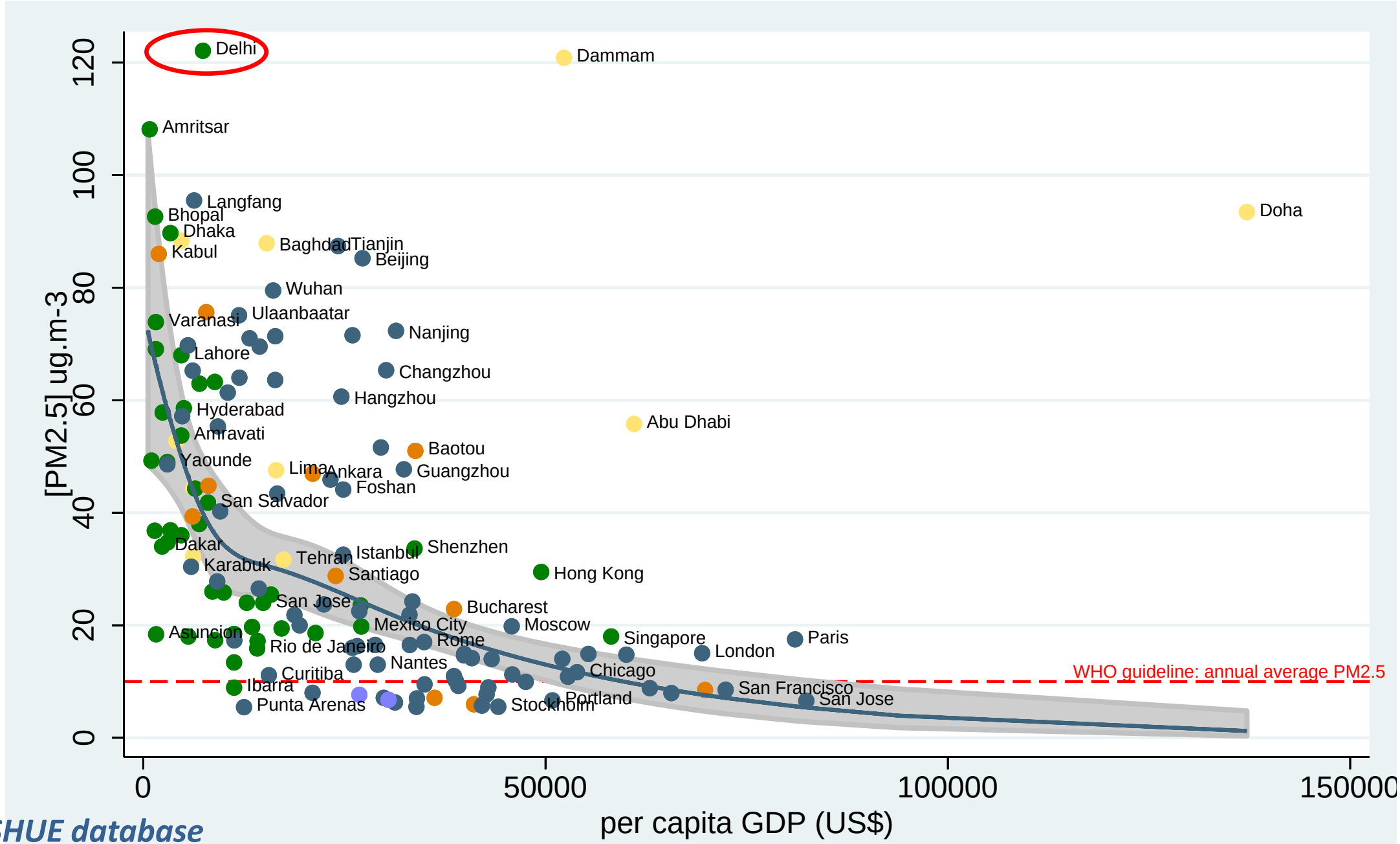
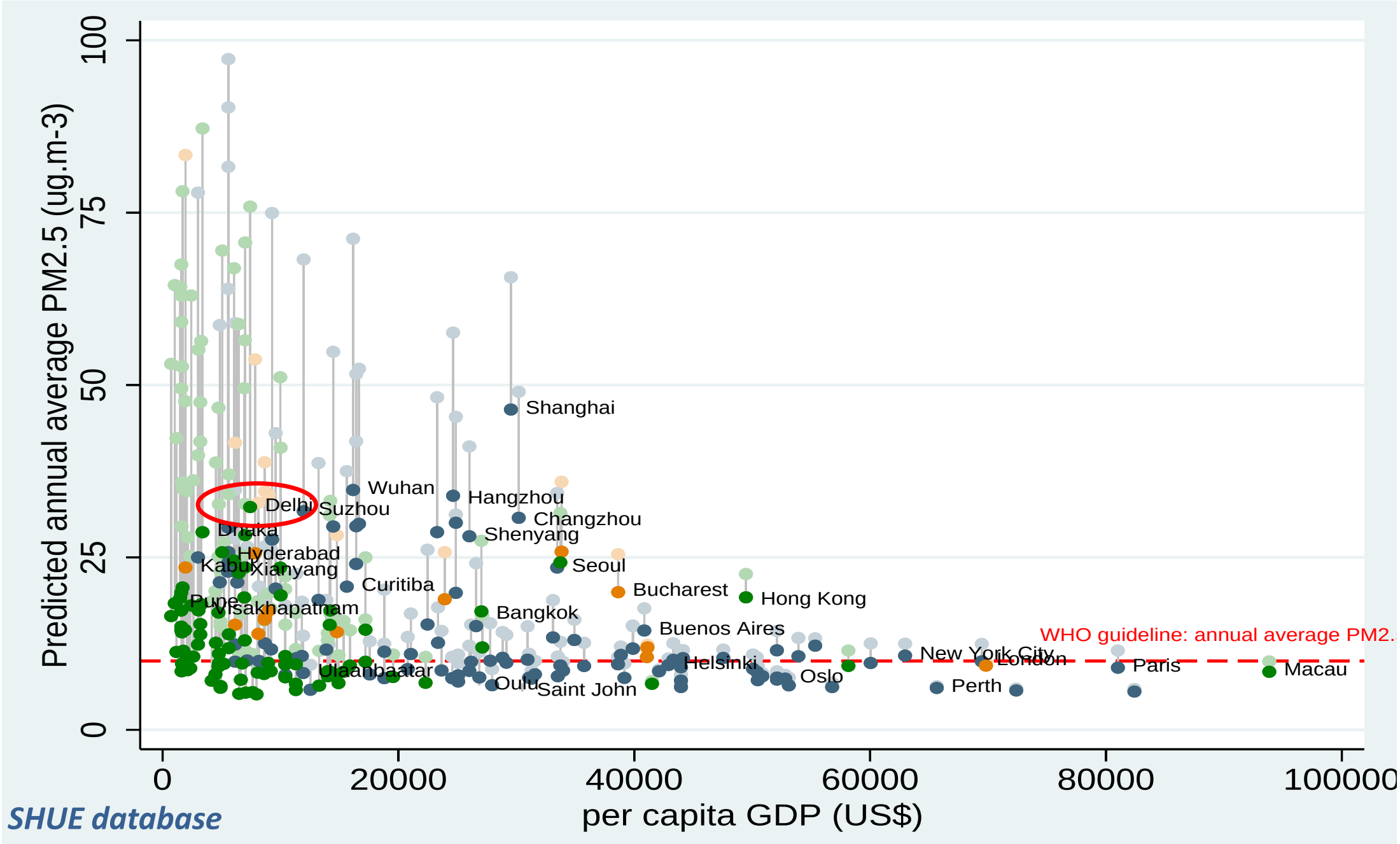
Paul Wilkinson, London School of Hygiene and Tropical Medicine

Annual average $PM_{2.5}$ *vs per capita* GDP



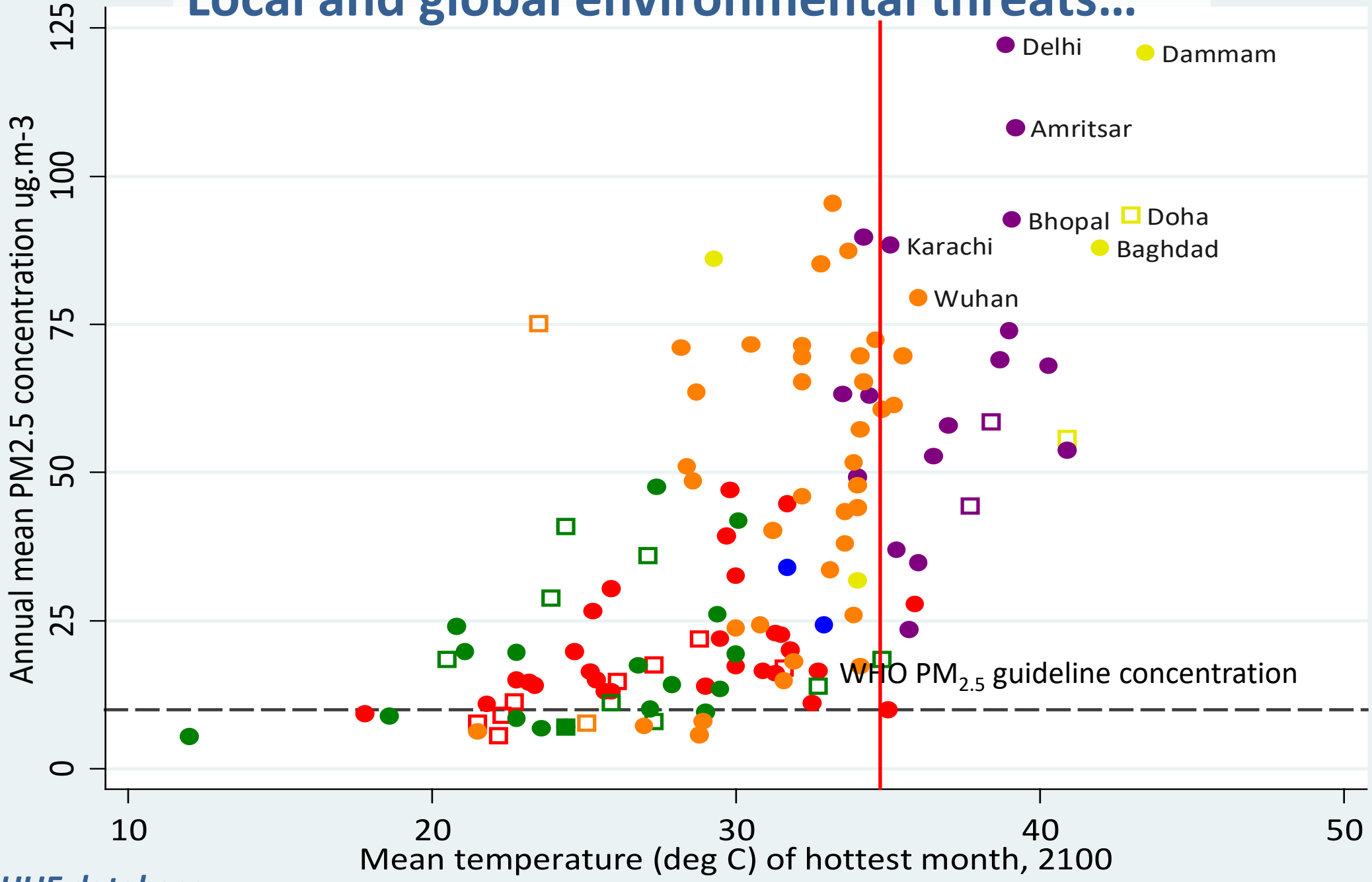
Source: SHUE database

Thought experiment: change, $PM_{2.5}$ from halving surrounding emissions + develop to '$40k'



Source: SHUE database

Local and global environmental threats…

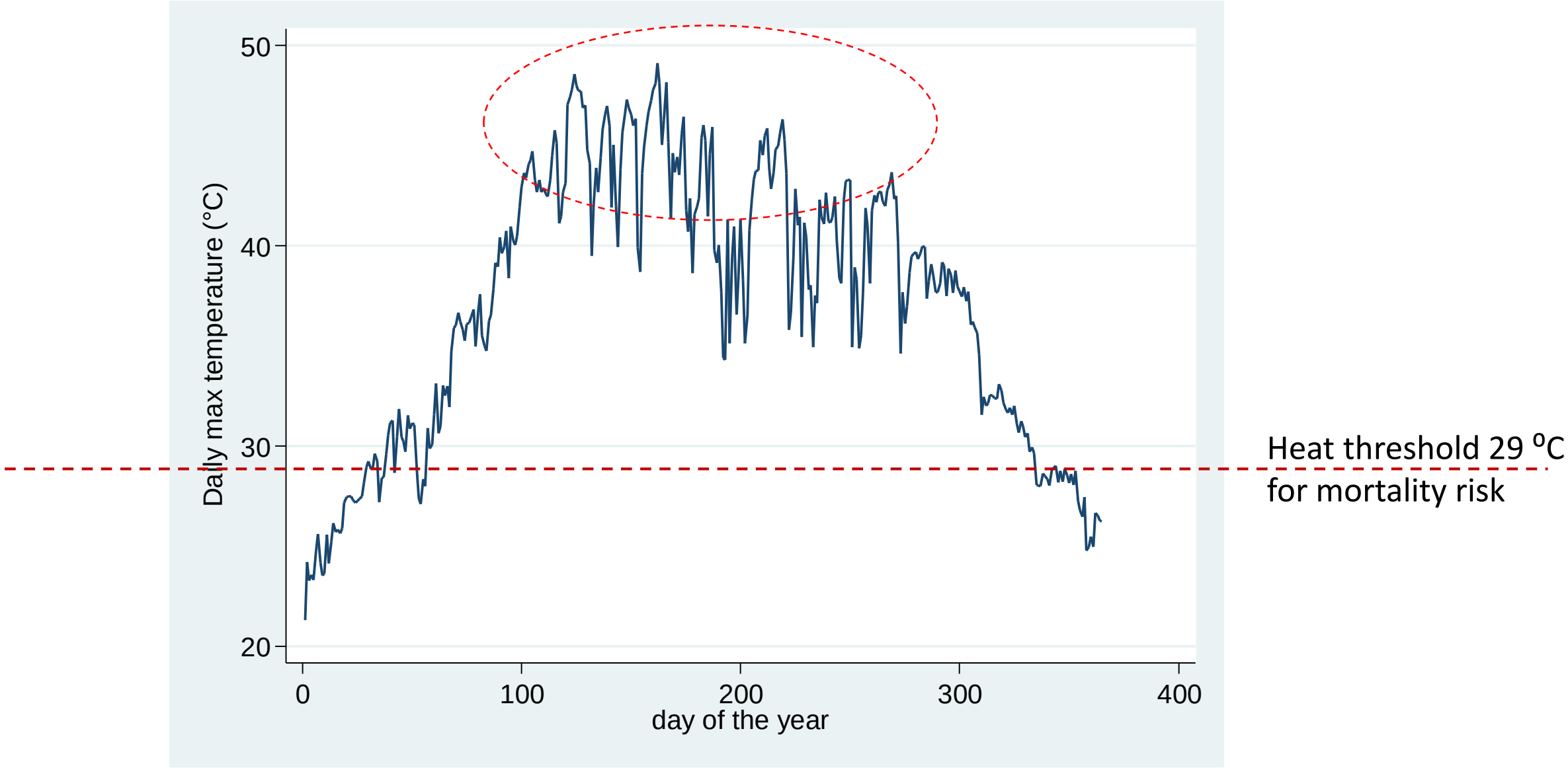


Source: SHUE database

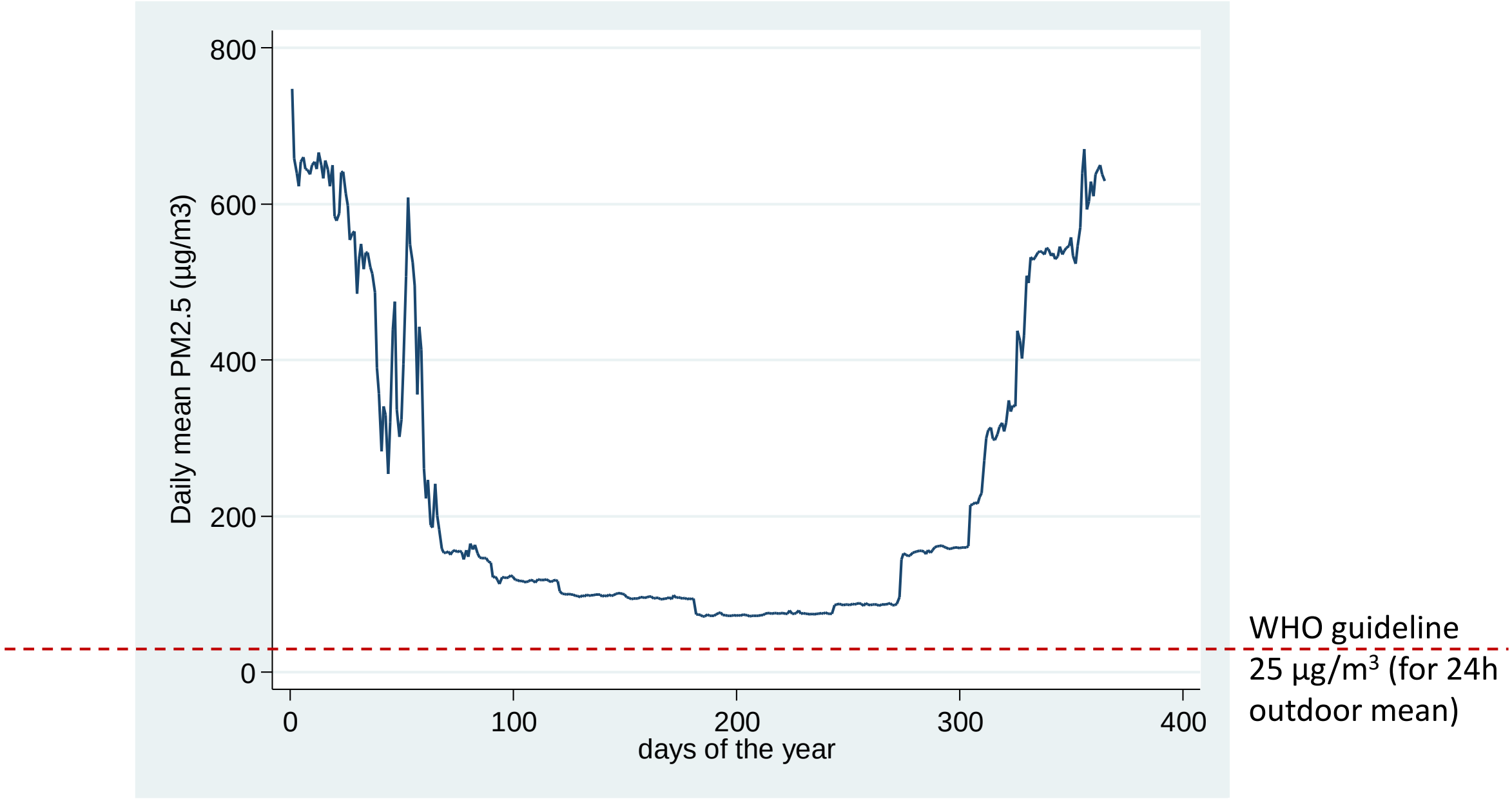
Savda Ghevra, Delhi

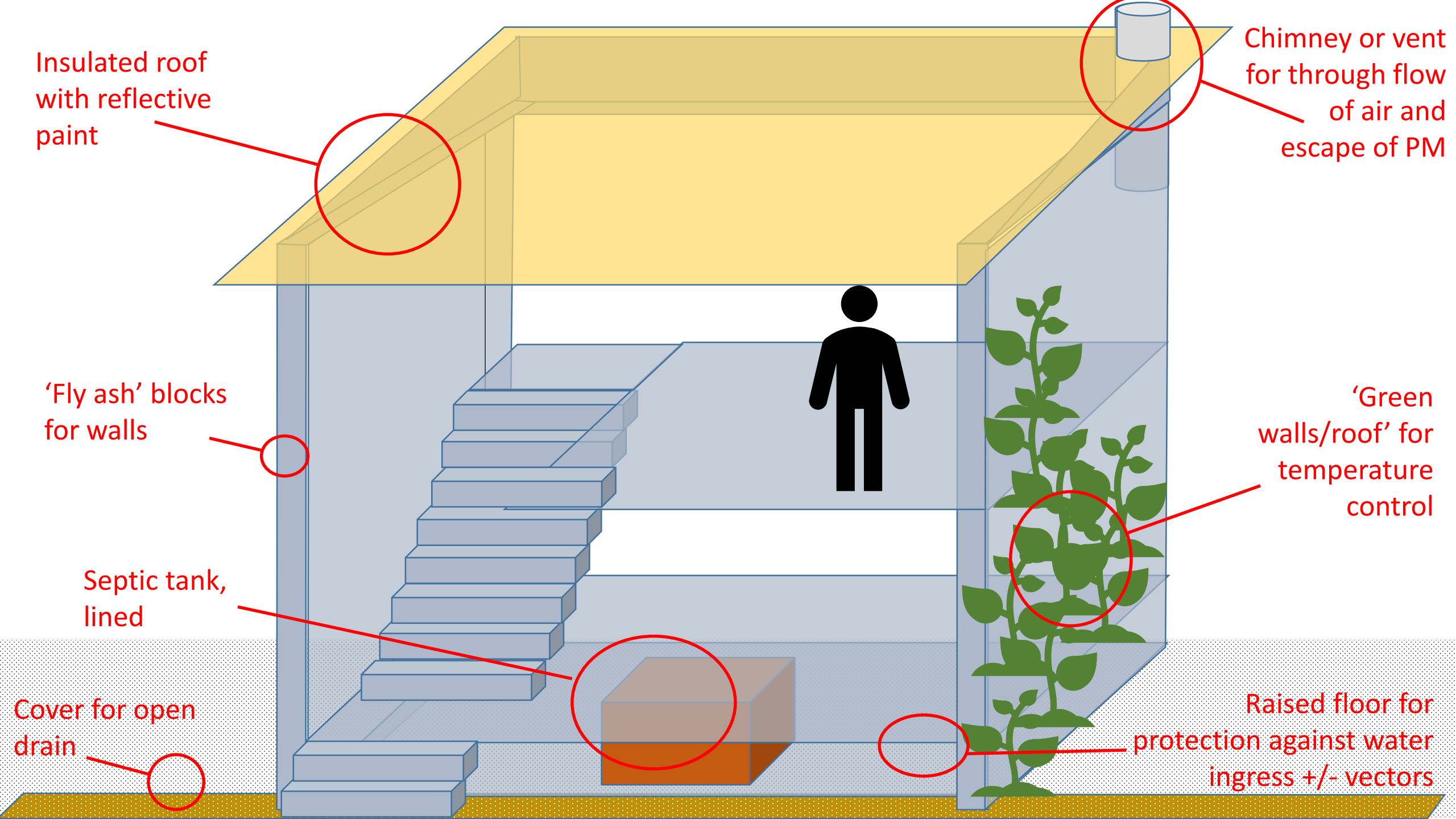
Typology	Hazard				
	Damp	Heat	Toilets	Mosquitoes	Infestations
Katcha	x	x	x	x	x
Semi-Pucca	x	x	x	x	x
Pucca 1.5	x	x		x	
Pucca 2	x	x		x	

Measurements of indoor temperature: Savda dwelling



Indoor air pollution (daily mean): Savda dwelling




Insulated roof with reflective paint
Chimney or vent for through flow of air and escape of PM
'Fly ash' blocks for walls
'Green walls/roof' for temperature control
Septic tank, lined
Cover for open drain
Raised floor for protection against water ingress +/- vectors

Comment

- Multiple environment and health challenges for Indian cities, as elsewhere
- Action on environmental sustainability can help reduce the risks of current and future risks to population health
- Important targets for action include housing, transport, energy systems, waste…