

Combining satellite and survey data to study Indian slums: evidence on the range of conditions and implications for urban policy

Supplementary information

TABLE S1
Summary of data collected between 2010 and 2016

Year	City	Sample source	Neighbourhood surveys	Household surveys	Social network census surveys	Leader interviews
2010	Bangalore	KSDB data	14	1,481	-	-
2012	Bangalore	Satellite images	18	631	-	-
2013	Bangalore	Satellite images	157	-	-	-
2015	Bangalore	2010, 2012 and 2013 samples	40	1,272	-	-
2016	Jaipur	PDCOR and satellite data	45	2,718	4	91
2016	Patna	SPUR data	43	2,155	4	78

NOTES:

KSDB refers to Karnataka Slum Development Board.

PDCOR refers to PDCOR Limited, a joint venture between the Government of Rajasthan and Infrastructure Leasing & Financial Services.

SPUR refers to Support Programme for Urban Reforms.

TABLE S2
Description of regression variables

Variable	Construction	Units	Observed range
<i>Neighbourhood characteristics</i>			
Age of slum	Focus group estimate of slum age	Years	(3, 250)
Neighbourhood size	Focus group estimate of number of households	Households	(20, 4018)
Other services	Principal component score of indicators for road quality and garbage disposal services, which were not included in the slum score	Principal component score	(-2.3, 1.2)
<i>Household characteristics</i>			
Proportion General Caste	Proportion of respondents indicating they are General Caste	Percentage	(0, .5)
Proportion	Proportion of respondents indicating they are either Scheduled	Percentage	(0, 1)

Scheduled Caste/Scheduled Tribe	Caste or Scheduled Tribe		
Proportion Muslim	Proportion of respondents indicating they are Muslim	Percentage	(0, 1)
Variable	Construction	Units	Observed range
Proportion migrant	Proportion of respondents indicating they migrated to the city during their lifetime	Percentage	(0, .8)
Average years lived in slum	Average number of years respondents have lived in their current home (within the slum)	Years	(3.6, 34.5)
Spending on travel to rural village	Average expenditure on travel back to rural areas as a percentage of total expenditure	Percentage	(0, .4)
Education level	Education was measured differently across waves. Respondents recorded either the number of years in school or the highest academic milestone achieved. For standardization across waves, responses are scaled from 0 to 1.	Scale from least to most education	(0, 1)
Proportion manual labour	Proportion of respondents employed in construction, factory, sanitation, or other manual work	Percentage	(0, .93)
Economic mobility	Average change in stages of progress as described by Krishna. ^(a) This method asks the respondents the highest level of 10 needs they can afford now and could afford 10 years ago.	Levels afforded	(-.5, 4.2)
<i>Tenure security</i>			
Perceived recognition	Proportion of respondents who respond that the government has assigned “notified” status to the slum	Percentage	(0, 1)
Proportion with house and land titles	Proportion of respondents possessing titles for their home and land	Percentage	(0, .9)
Proportion with ration cards	Proportion of respondents possessing a ration card	Percentage	(0, .98)
<i>Slum leadership</i>			
Proportion reporting presence of local leader	Proportion of respondents indicating there is a local leader residing in the slum	Percentage	(0, .98)
<i>City-level controls</i>			
Patna	Statistical diagnosis revealed that including indicator variables for Bangalore and Jaipur could bias the results due to the strong correlation between scores in these cities. We instead add an indicator variable equal to 1 for slums located in Patna and 0 for slums located in Bangalore or Jaipur.	Yes or no	(0, 1)

NOTE:

^(a) Krishna, Anirudh (2010), “Who became poor, who escaped poverty, and why? Developing and using a retrospective methodology in five countries”, *Journal of Policy Analysis and Management* Vol 29, No 2, pages 351–372.

FIGURE S1
Distribution of scores by city

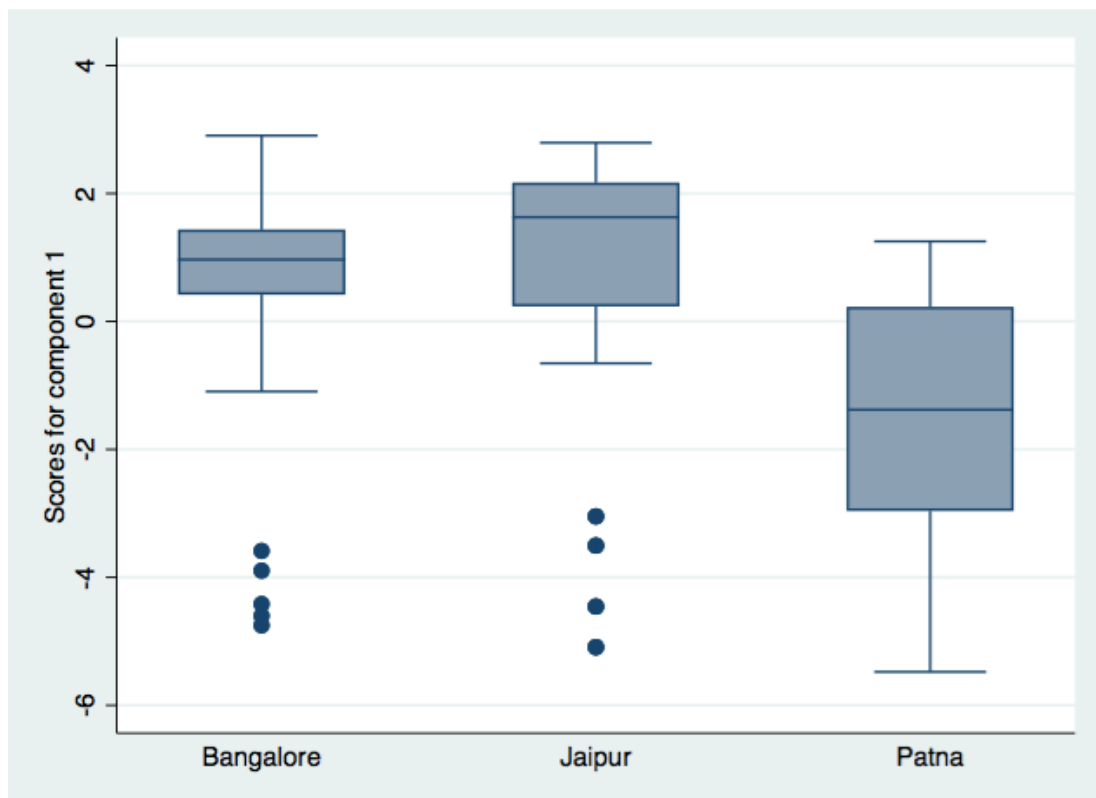


FIGURE S2
Predicted continuum score across a range of education and service access values

