

RETHINKING SEWERS

WORLD WATER WEEK, AUGUST 2018

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Thanks to Himanshu Parikh for Slum Networking, India.
Thanks to eThekweni Municipality, Durban on behalf of
@ISULabanNtu team.

RETHINKING SEWERS

**PROVISION OF INTEGRATED INDIVIDUAL
INFRASTRUCTURE**

CITY LEVEL SYSTEMS

NATURE BASED SOLUTIONS

IMPACT AND MULTIPLIER EFFECT

SELF RELIANT AND LOCALISED SOLUTIONS

SUSTAINABILITY



INFRASTRUCTURE

IN EUROPE, THE HIGHEST REDUCTIONS IN MORTALITY RATES WERE RECORDED LAST CENTURY WITH THE ADVENT OF SAFE WATER AND PIPED SEWERAGE.

ALL THE SUBSEQUENT ADVANCES IN SCIENCE AND MODERN MEDICINE PUT TOGETHER HAVE NOT MATCHED THIS.

HOW?

Provide physical infrastructure services through **networks** servicing **individual** households (water, sanitation, roads, electricity, rain water, solid waste).

In-situ upgrading with land tenure as a **lease**.

Use appropriate technologies, high quality data, **nature sensitive designs**, simplicity and frugality as an approach. This will reduce the gap between costs and affordability.

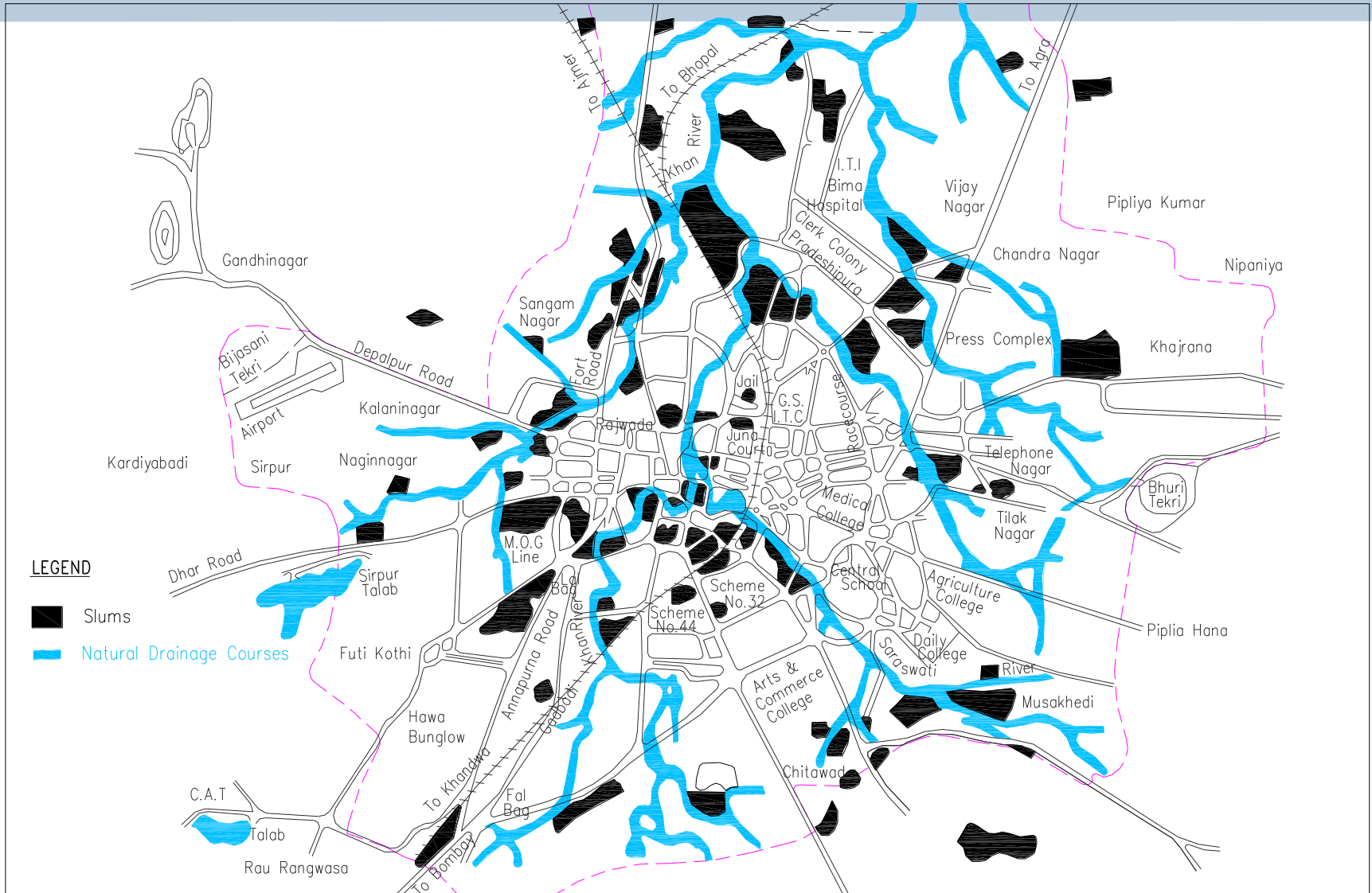
Get over the 'poverty syndrome' by making communities a **financial partner**. Meeting the huge resource needs through self-reliant partnerships and the untapped latent wealth of the community.

INFRASTRUCTURE CAN THEN ALLEVIATE POVERTY AND IMPROVE HEALTH, EDUCATION, INCOME AND HOUSING.



HOW?

Thanks to Himanshu Parikh



Correlation Between City Slum Fabric and Natural Drainage Courses – Indore.

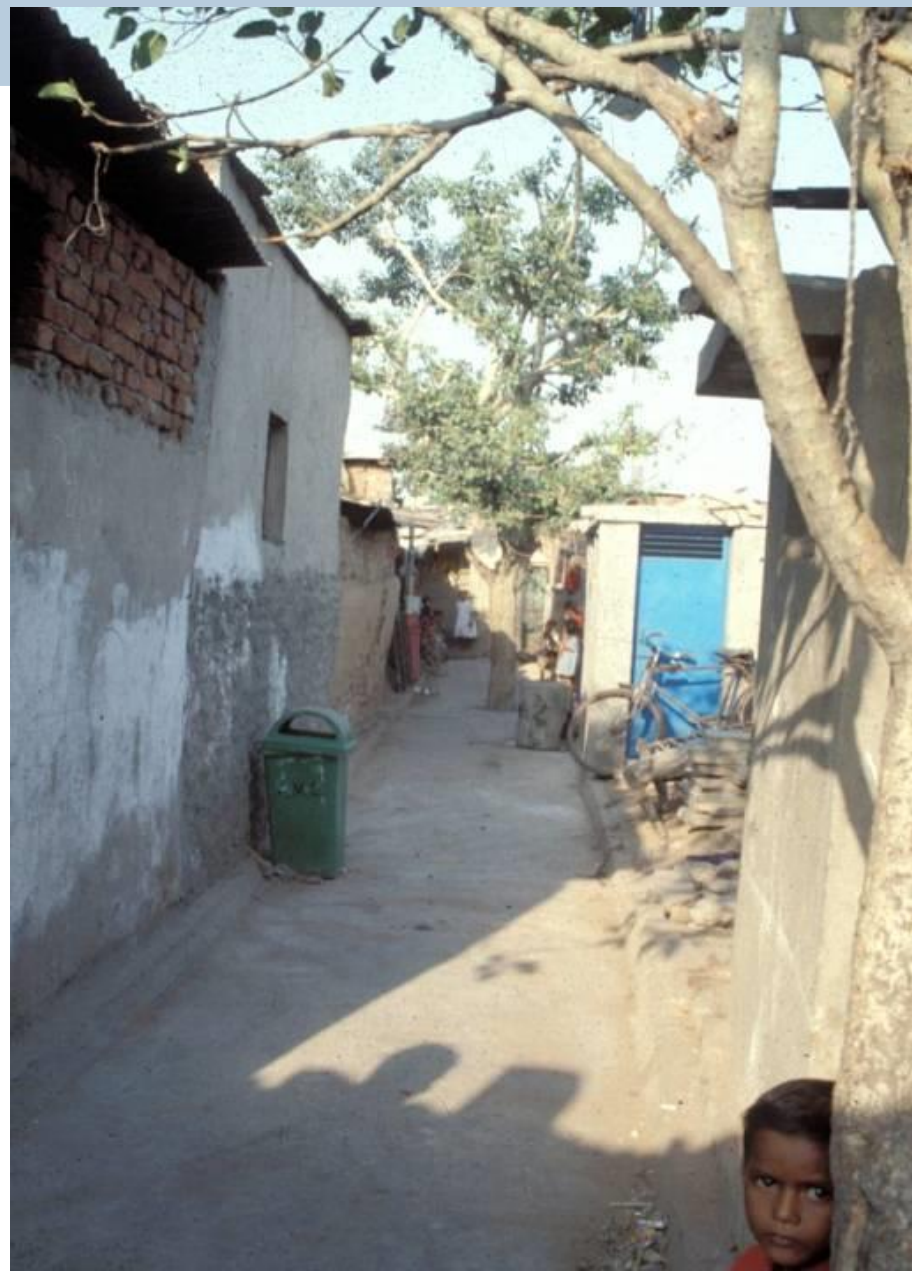
Scale
0 0.5 1.0 2.0 Km.



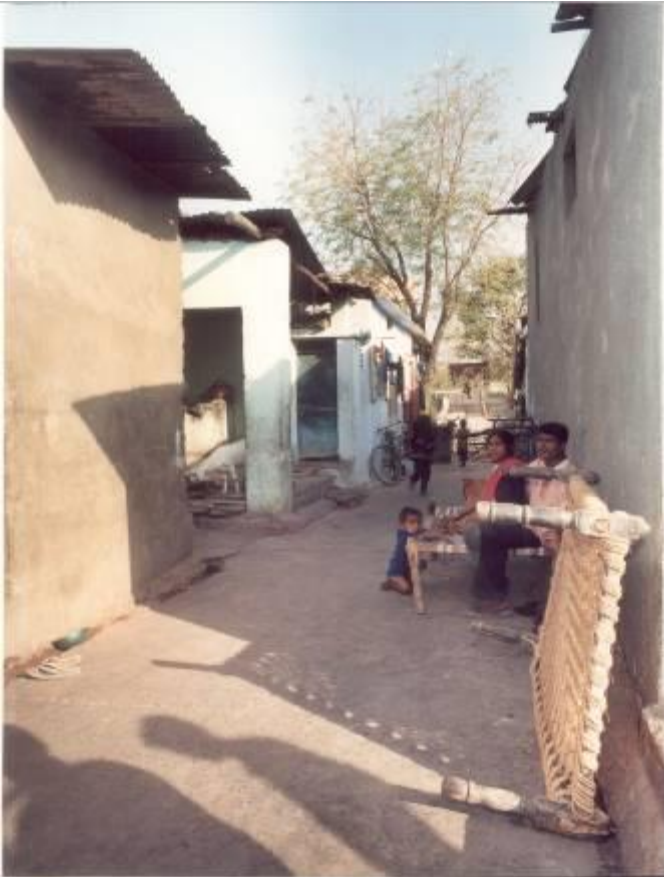
INTEGRATED INFRASTRUCTURE (SLUM NETWORKING)

- Topography management.
- Roads.
- Storm drainage.
- Water supply.
- Sewerage and treatment.
- Power and street lighting.
- Earthworks and soft landscaping.
- Solid waste management.

BEFORE AND AFTER



AHMEDABAD TWO YEARS LATER



PAVED STREETS



WATER, TOILETS & SANITATION

Source: Priti Parikh PhD

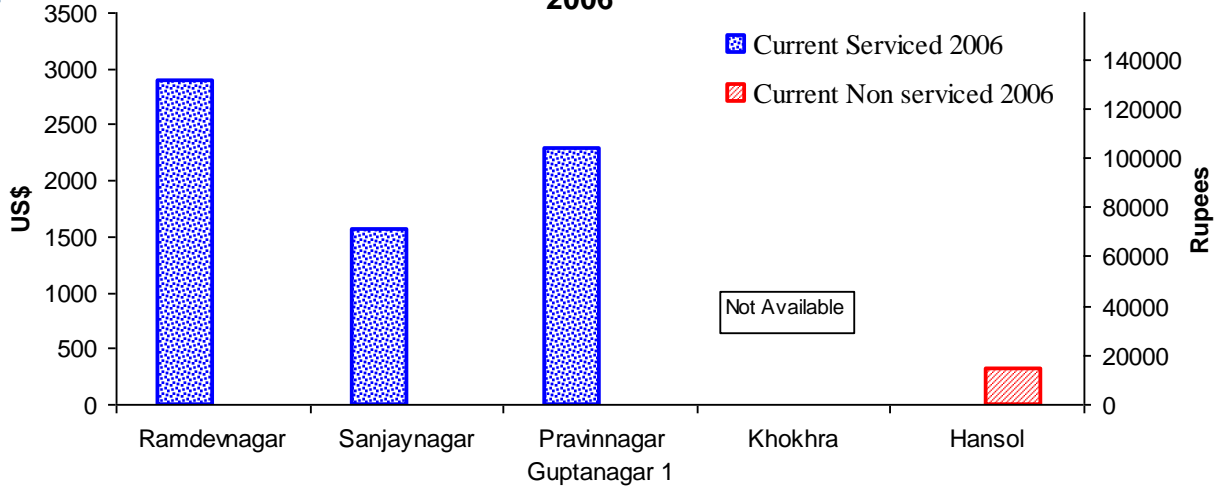


**Water and Sanitation
generates housing
investment**

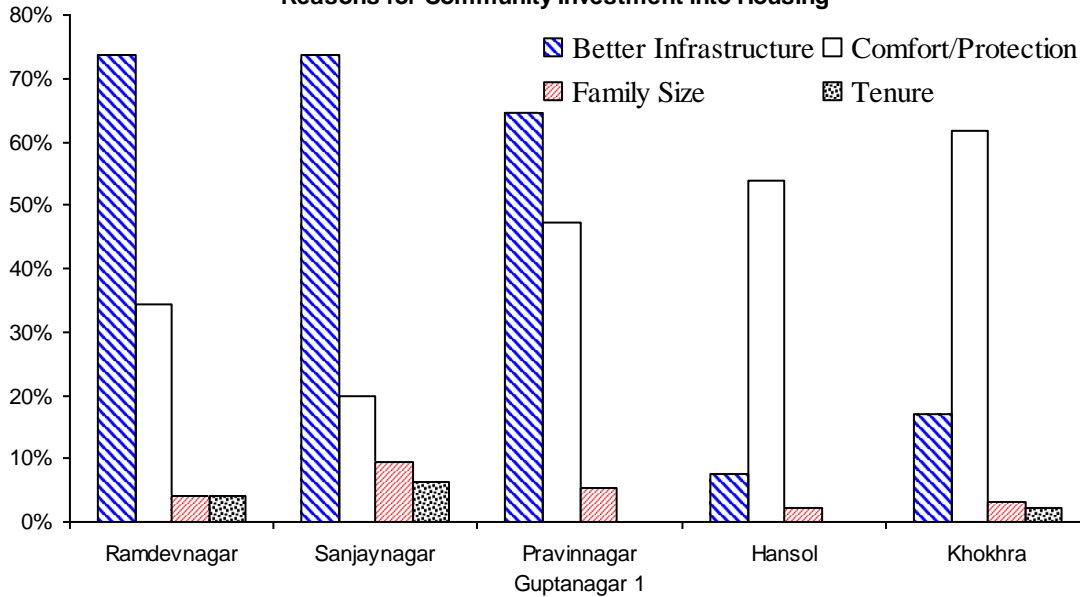


HOUSING INVESTMENT

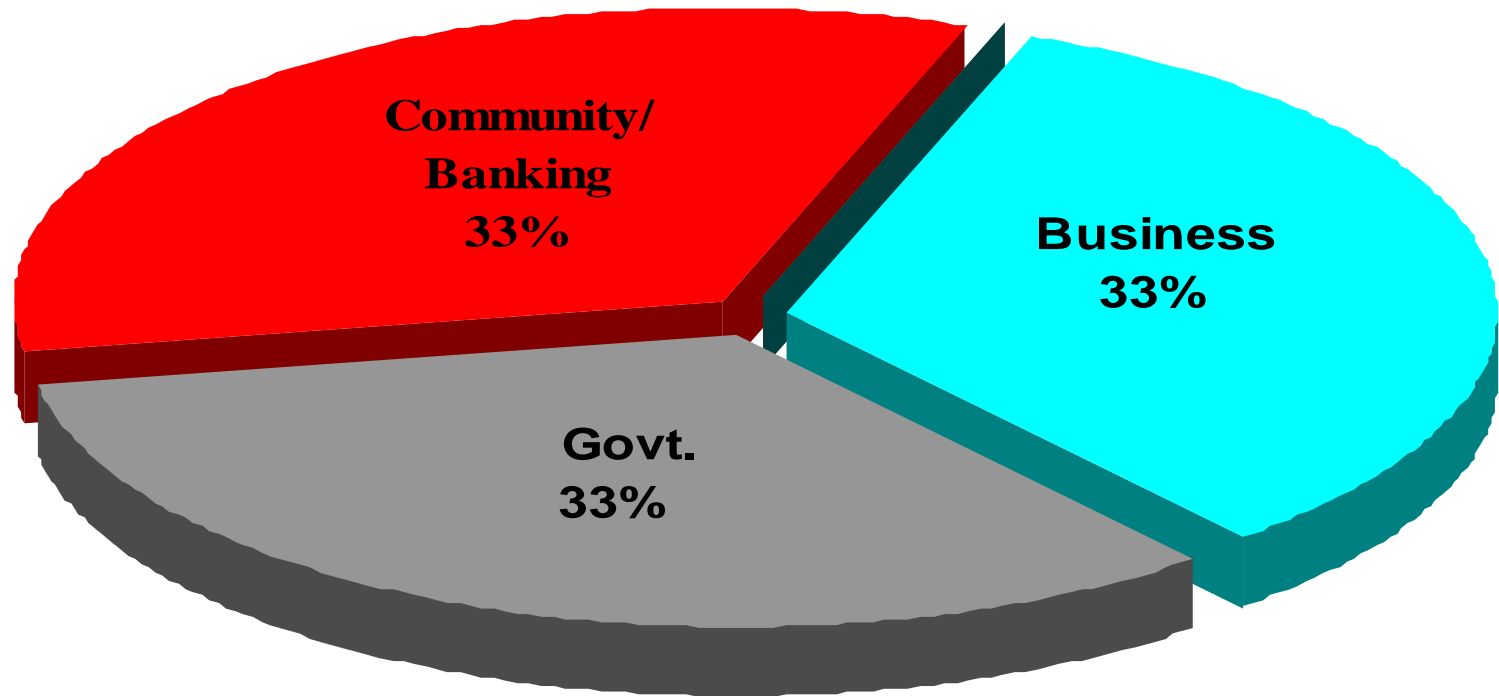
Household and Goods Investment by Community from 1996 to 2006



Reasons for Community Investment into Housing

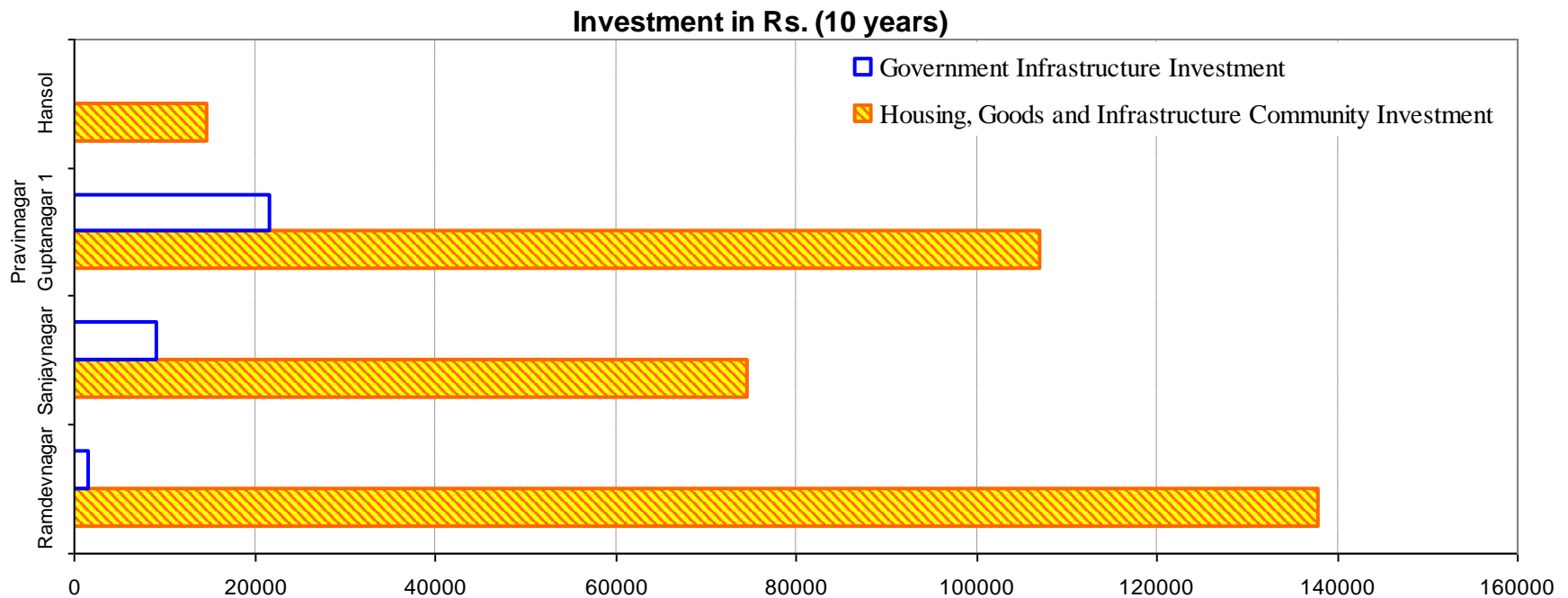


PARTNERSHIP



MULTIPLIER

Based on 400 household interviews in 4 Slums in Gujarat, India.



P Parikh, A McRobie, H Parikh (2012) The Role of Infrastructure in Improving Human Settlements, Urban Design and Planning, Volume 166, Issue 2.



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Study Sites



Namibia Stop 8



Havelock



Piesang River



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eThekweni Municipality

Sihlanzimvelo Stream Cleaning Project

Riverfront challenges include constant blockages, overflow of sewer lines, illegal dump areas, fast growth of alien vegetation and safety.

59 Co-operative contracts active for cleaning of streams with local community members involved in cleaning and O and M activities

Streams are now cleaner, used for vegetable farming, sewer lines if any are maintained

Integration of services with riverfront development yet again proving to be effective with co-operatives bringing in ownership and O and M



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Sihlanzimvelo Stream Cleaning Project

CURRENT CONDITION OF STREAMS



Co-ops clearing vegetation of stream

Source: Geoff Tooley, eThekweni Municipality



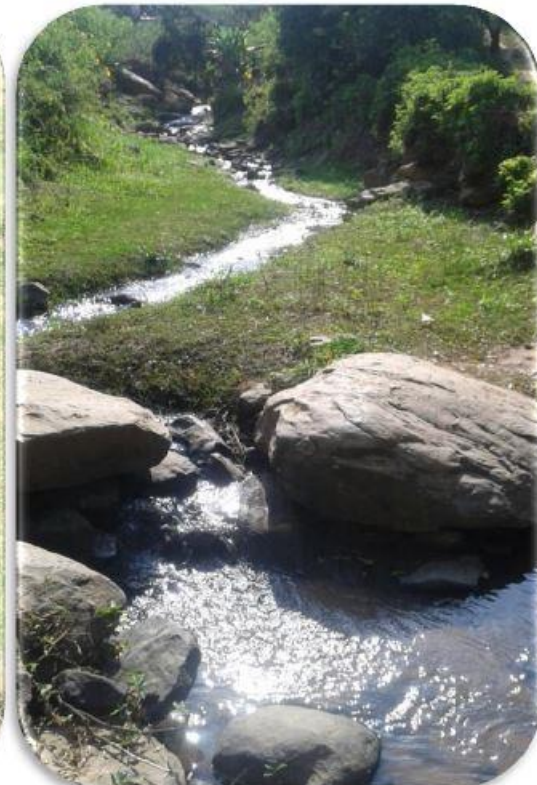
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Sihlanzimvelo Stream Cleaning Project

CURRENT CONDITION OF STREAMS



Streams maintained by the Programme

Source: Geoff Tooley, eThekweni Municipality



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