

Right on target? Delivery in electricity and water services

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Backlog: an outline

- Poverty alleviation through ending deprivation; its possibilities and limits
- Challenge of constitutional rights and free basic services
- Backlogs in electricity; issues and progress;
- Water and sanitation; the delivery record;
- The question of sustainability;
- Some case studies; electricity and parasite control;
- The record on free basic water;
- Conclusions



Service delivery = poverty alleviation?

- Poverty alleviation not directly correlated with varying levels of economic growth
- Can be very different outcomes e.g. Kerala, dependent on wide definition of social capital and planning at local level
- Service delivery most closely associated with ending *deprivation* – the lack of life sustaining necessities
- Poverty a combination of low income, poor health, poor education, etc; social provision is only first step towards accelerating human development and income poverty
- Service delivery starts with house structure; other essential services (electricity, water, etc) make up *housing*



Planning for service delivery

- Backlog largely in rural areas although slums often explosive
- Delivery is a political, financial and institutional challenge
- Existing strategy one of incremental change based on previous budget plus inflation; water services 0.7% of budget
- Not based on calculated series of targets
- Models constructed with varying degrees of complexity; largely focused on capital expenditure



More resources please!

To accelerate progress in human development, economic growth is, of course, necessary. But it is not enough. Scaling up will require both a substantial increase in external resources and more effective use of all resources, internal and external. As resources become more productive, the argument for additional resources becomes more persuasive.

World Bank. 2003. World Development Report 2004:

Making Services Work For Poor People, p1.



The cost of freedom

- Free services to the rural poor both a constitutional requirement and a social necessity
- Costs of delivering a service not possible to meet from revenue from beneficiaries in services in poor urban and rural communities
- Decisive shift to municipalities now includes standalone schemes but process is just beginning
- New questions of funding to local government in terms of their growing powers and functions
- Cost recovery not an answer to question of sustainability; poverty means low consumption and continuing health challenges (est 43 000 child deaths from diarrhea per annum)



Electricity: the backlog

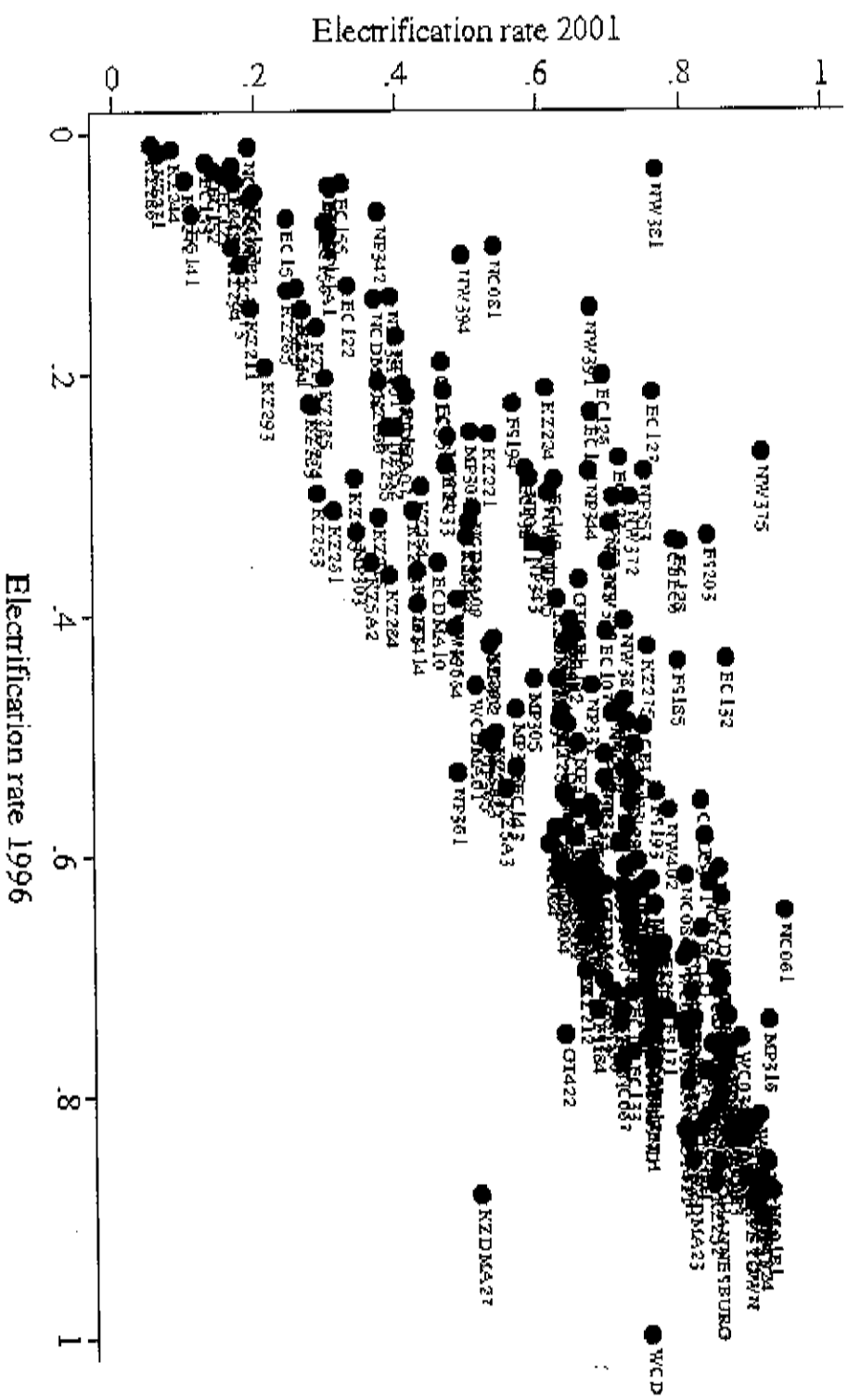
- Rural women walk more than a kilometre to find wood, spending as long as 205 minutes daily
- More drudgery even than fetching water
- Wood and paraffin unhealthy (high levels of lung complaints) and dangerous (terrible burns)
- In mid-90s excess capacity, now not true
- Backlog in 1994 3m, 2001 3,65m households, and growing
- Does delivery end environmental degradation of rural areas and end women's drudgery?



Progress by municipality

1996-2001

How electrification rates have changed between 1996 and 2001

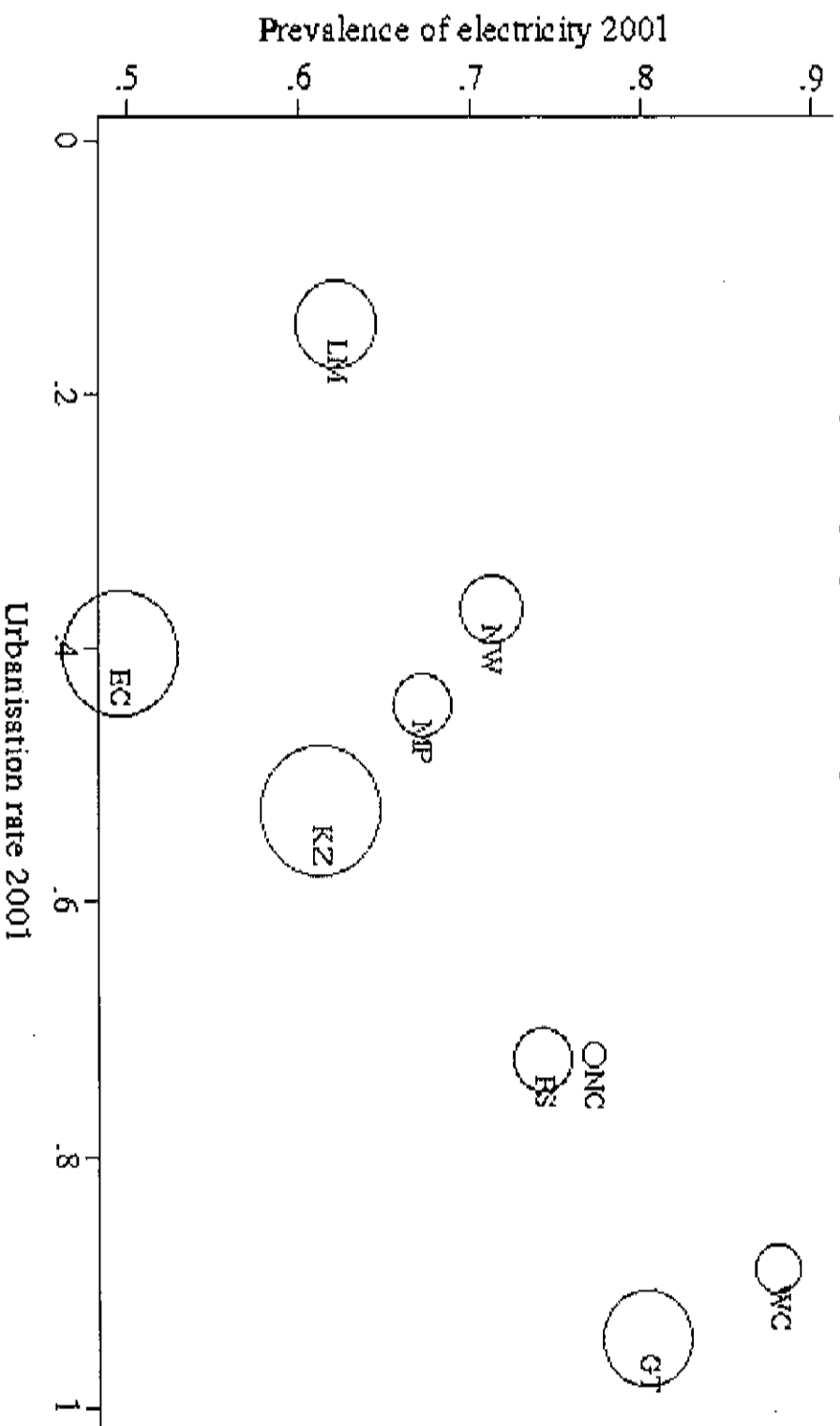


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Poor by urbanisation without Electrification, 2001

Relationship between urbanisation and electrification
Symbol proportional to poor without electricity



Ur



Some conclusions

- Poorest provinces the least electrification
- Least urbanised also less likely to have close settlement patterns conducive to relatively easy delivery
- More equal spread of the poor between provinces and on the urban/rural continuum than anticipated e.g. Gauteng
- Poor find it difficult to access and maintain connection to the grid
- Rural poor have low consumption and therefore low revenue received



Scenario 1: R4 500 connection

| Cost per connection | Households needing connection | CAPEX required | Expenditure to 2010 |
|---------------------|-------------------------------|----------------|---------------------|
| 2004 population | 3 627 000 | R15.4 billion | R2.6 billion |

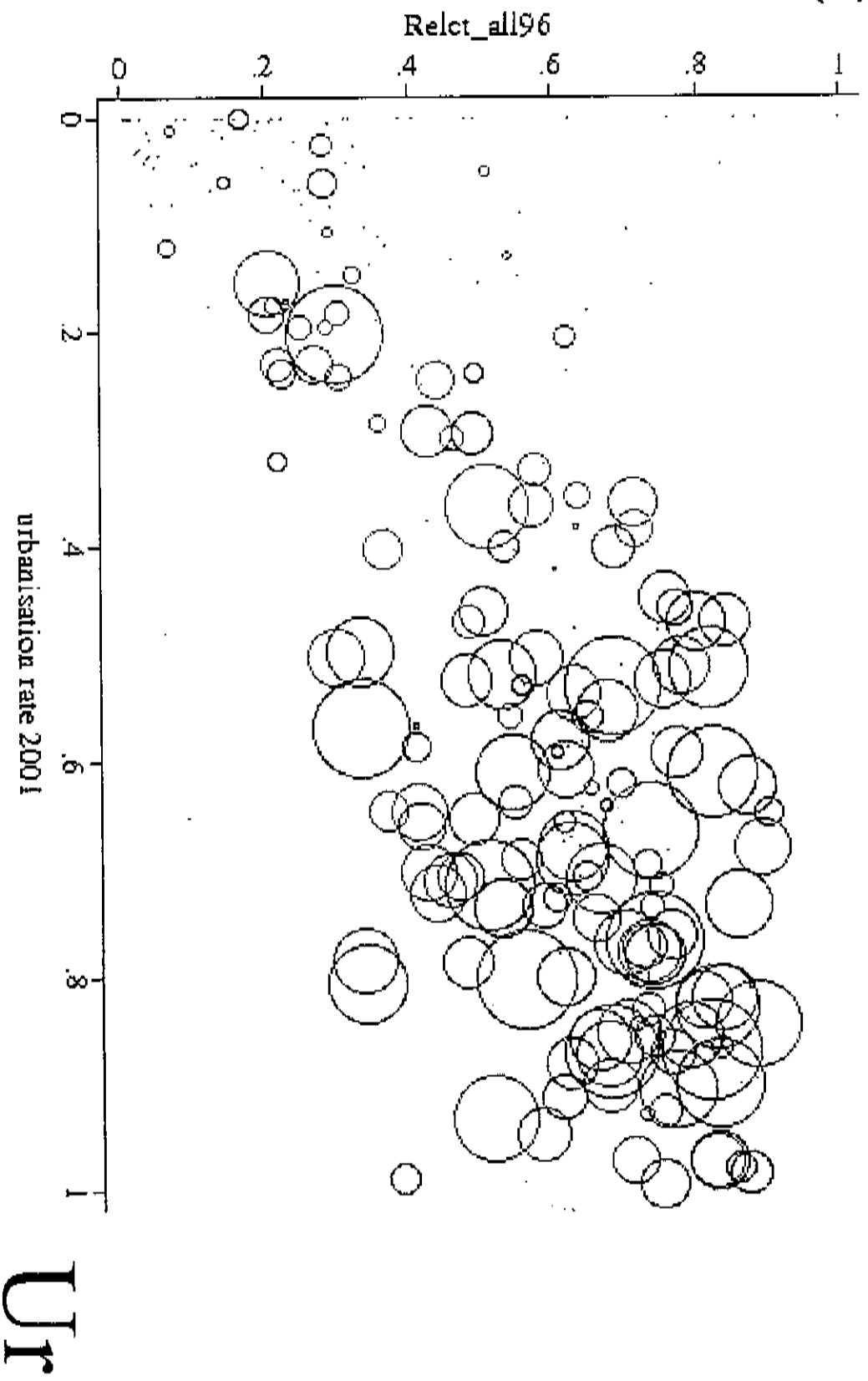


Scenario 2: R1 900 connection

| Cost per connection | Households needing connection | CAPEX required | Expenditure paid to 2010 |
|----------------------------|--------------------------------------|-----------------------|---------------------------------|
| 2004 population | 3 627 000 | R6.8 billion | R1.1 billion |



INEP capital expenditure



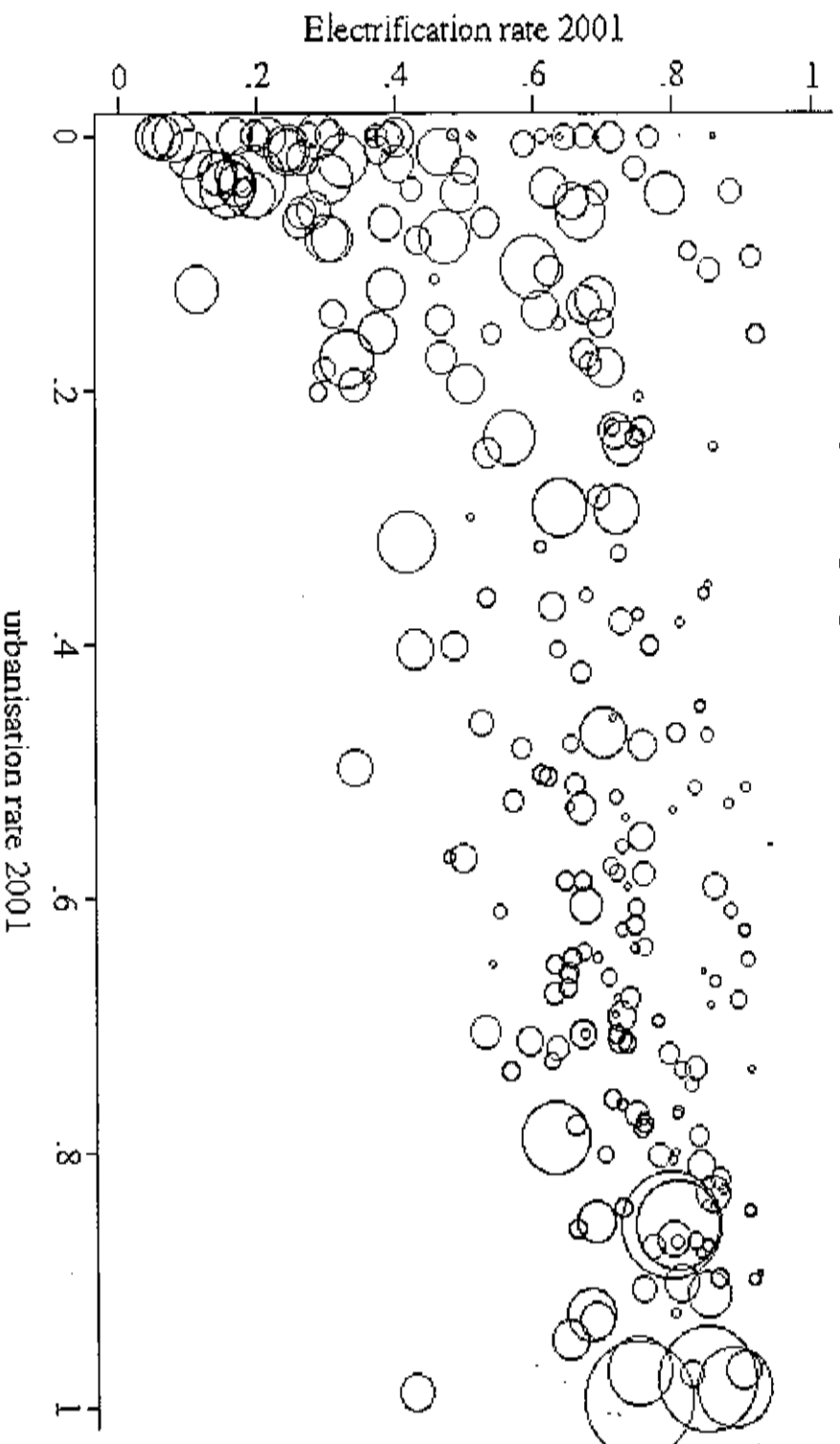
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Where CAPEX is needed

Elect

Relationship between urbanisation and electrification
Symbol proportional to CAPEX required



Not a straight line...

- CAPEX linked to level of service provided
- Rural connections either 10 or 20 Amp level; urban areas 40 Amp level
- High demand from urban areas which are better resourced yet have much larger populations and a stubborn level of backlog
- Rural municipalities with lower levels of service need to be tightly clustered together
- Complains of frequent breaks in supply



Progress is possible!

| NAME | Level of urbanisation | Rate of change, 1996-2001 |
|----------------------------|------------------------------|----------------------------------|
| Setla-Kgobi Municipality | 0 | 74 |
| Moses Kotane Municipality | 9 | 65 |
| Makhudutamaga Municipality | 4 | 62 |



Water and sanitation

- Households without piped water have a child mortality rate twice as high (from 11.6 to 27.7) as those who do;
- Households which do not have flush sanitation have a child mortality rate four times as high (from 7.7 to 34.9)
- RDP: 12m people do not have access to clean drinking water
- Access = standpipe within 200m of household or better e.g. full pressure connection in house, yard connection, etc.
- Problem: many figures relate to access to infrastructure only i.e. including *beyond* 200m, or not piped water
- Sanitation standard = VIP (Ventilated Improved Privy)



Backlog: RDP Standard

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| | Backlog 2001 | Backlog 1996 | Change in backlog |
|--------------------|------------------|------------------|----------------------|
| Eastern Cape | 736,796 | 619,783 | 117,013 |
| Free State | 114,467 | 37,254 | 77,213 |
| Gauteng | 250,996 | 78,305 | 172,691 |
| KwaZulu-Natal | 822,316 | 560,518 | 261,798 |
| Limpopo | 536,253 | 240,848 | 295,405 |
| Mpumalanga | 201,474 | 107,350 | 94,124 |
| North West | 282,049 | 133,888 | 148,161 |
| Northern Cape | 21,771 | 16,497 | 5,274 |
| Western Cape | 98,153 | 31,098 | 67,055 |
| Grand Total | 3,064,275 | 1,825,541 | 1,238,734 |



Backlog: access infrastructure

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| | Backlog 2001 | Backlog 1996 | Change in backlog |
|--------------------|------------------|------------------|----------------------|
| Eastern Cape | 533,681 | 619,783 | -86,102 |
| Free State | 30,572 | 37,254 | -6,682 |
| Gauteng | 63,213 | 78,305 | -15,092 |
| KwaZulu-Natal | 543,694 | 560,518 | -16,824 |
| Limpopo | 256,731 | 240,848 | 15,883 |
| Mpumalanga | 93,448 | 107,350 | -13,902 |
| North West | 125,203 | 133,888 | -8,685 |
| Northern Cape | 6,761 | 16,497 | -9,736 |
| Western Cape | 18,347 | 31,098 | -12,751 |
| Grand Total | 1,671,650 | 1,825,541 | -153,891 |



Drinking water: scenarios

| Access to clean drinking water | Funding at current levels | Funding at level to meet targets |
|--------------------------------|----------------------------|----------------------------------|
| Backlog | 7 135 469 persons | |
| Capital cost | R915/person | |
| Treasury funding | Average R1,185bn per annum | Average R3.2bn per annum |
| Target reached | 2011/2012 | 2007/2008 |



Sanitation: two scenarios

| Access to improved sanitation | Funding at current levels | Funding at level to meet targets |
|-------------------------------|----------------------------|----------------------------------|
| Backlog | 4 348 876 households | |
| Capital cost | R2700/household | |
| Treasury funding | Average R1,185bn per annum | Average R3,2bn per annum |
| Target reached | 2020/2021 | 2009/2010 |



Sustainability?

- Shift from standalone basis: no longer tenable
- Sufficient supporting funds from the national treasury to support the **operations and maintenance** of projects in communities which are some of the poorest in the country;
- Training and support to encourage the **best public management** of water services and projects; and
- **Public participation** in the management of projects to encourage both their best operation and the linked question of socially acceptable cost recovery.



The human component

- Can poor people afford adequate levels of service?
- Basic problem; no improvement in income levels over past 10 years but accelerated delivery
- What are adequate services?
- Can adequate services be made affordable?
- Can the cost of operations and maintenance be met from the Equitable Share, cross-subsidisation, or the people themselves?
- Can all this be efficiently managed by rural municipalities in particular?



Is the water flowing?

- 23 completed projects sustainability assessed
- 78% were working at one level or another, only 22% of the projects were sustainable on the basis then in existence i.e. as a standalone project with minimal intervention and support from district municipalities
- More disturbingly 56% of the projects were either not working or working below RDP standards (>200m and long interruptions)
- Most not providing 25l per person per day
- 3/5 failing projects subsequently operational through municipal action
- David Hemson. March 2003. The sustainability of community water projects in KwaZulu-Natal. Synthesis report and ten district reports undertaken for DWAF. HSRC.



What about water quality?

- Study of potable (clean drinking water) found high level of contamination
- Rural Eastern Cape: 50% below microbial maximum allowable level;
- Rural Western Cape: 62% below maximum allowable level;
- Water quality dependent on efficient operation, management, and monitoring of rural services.
- Mackintosh and Colvin Environmental geology (2003)



Inverse equity

- FBW initiated to serve rural poor but 50% of the poor not reached;
- 15m/45m people not provided for;
- Very poor targeting;
- Very low levels of service, but even then not provided for
- BUT rapid increase in consumption in rural areas where free standpipes installed

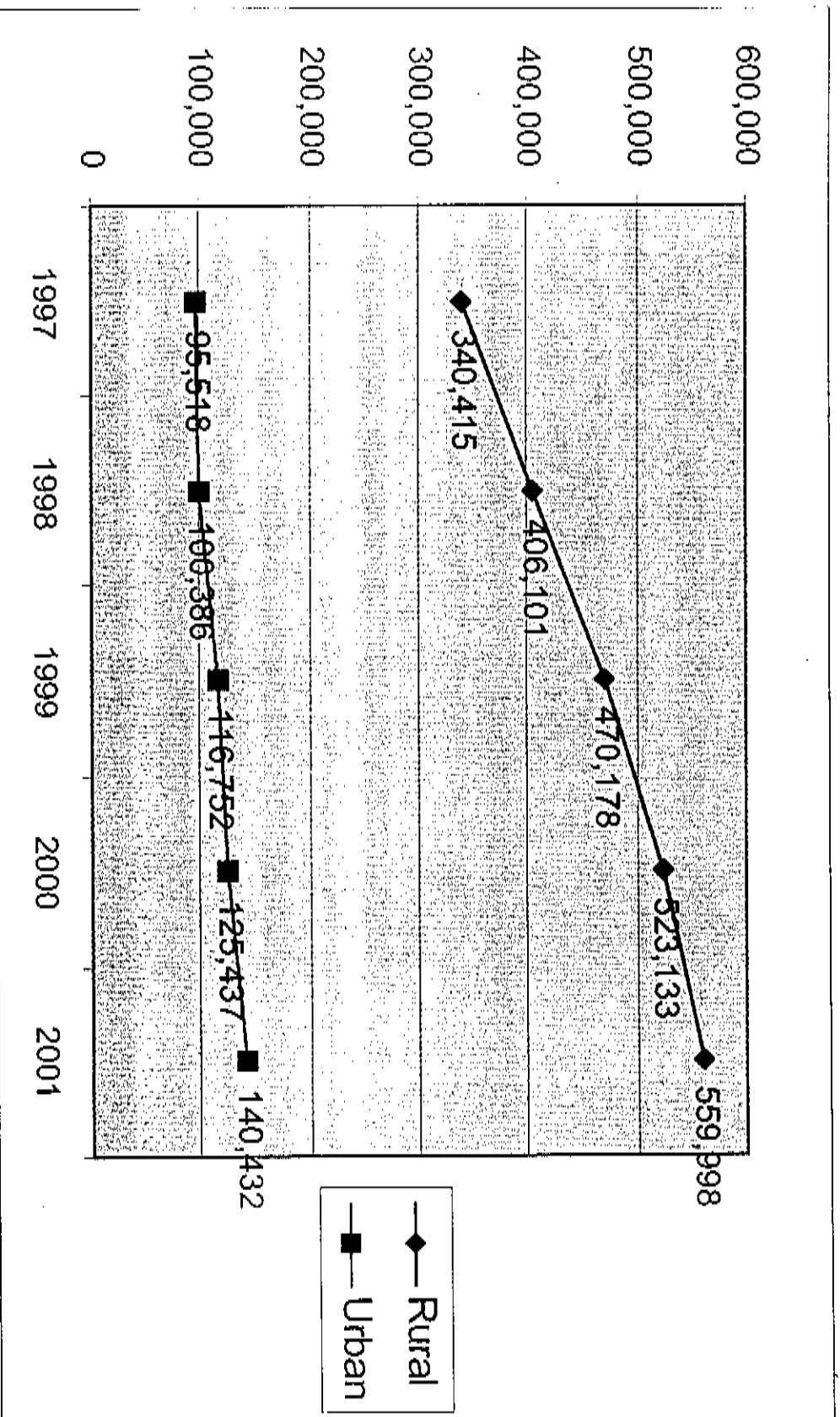


Some case studies

- Electrification in Limpopo
- Makhudutamaga Municipality electrification;
- Parasite control in KZN



Electrification in Limpopo



Energy for cooking

Sekhukhune district

| | |
|-------------|-----|
| Electricity | 21 |
| Gas | 1 |
| Paraffin | 6 |
| Wood | 55 |
| Coal | 14 |
| Animal dung | 1 |
| Solar | 0 |
| Other | 3 |
| | 100 |



Practicalities

- Makhudutamaga Municipality relationship with Eskom is good, but
- Difficulties in communication:
 - Requests for a printout of the electricity bills for the residents to be able to provide the figures to access funding for free services and
 - Requests for connections to water pumps have not received a response.
- Such difficulties are an impediment to small councils getting the funds provided to initiative and support delivery



Underconsumption

The social costs of current energy usage patterns are enormous, such as those imposed by the collection of scarce fuelwood resources. The majority of South Africans simply do not have access to affordable and convenient fuels of choice. Moreover, even where access to fuels has been provided, it is often the experience of suppliers that consumption levels are low, and hence the benefits of more modern and convenient fuels are not felt. *White Paper.*



Progress and failure: parasite control

- 1998 the KZN Department of Health initiated a school-based treatment and control programme intended to benefit 1½ million children
- Inter-departmental initiative: dramatic decline in parasite prevalence in the school children between 1998 and 1999
- But very little improvement between 1999 and 2000
- Difficulties in inter-departmental coordination and insufficient commitment from the 'lead' department
- Basically there was a drop-off in drugs being distributed to the schools and in the case of a number of the **parasite infections the incidence was starting to rise to pre-treatment levels.**



Bottling up delivery?

- Spending
- Policy and strategy
- Institutional responsibility
- Human resources
- Communication
- Equity



Conclusions

- Additional resources needed to meet targets
- Challenge:
 - electricity an annual investment of R2.3 bn per annum in extending services
 - to reach targets in water by 2008 (R3.2bn per annum) and sanitation by 2010 (R3.2 bn per annum)
- Dedicated funding where needed e.g. treatment of children for parasite infections
- ‘Best practices’ to be followed in developing capacity
- Greater attention to specific issues in ‘capacity building’
- Certainty in funding and in accessing funds; better planning and less uncertainty

