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PEOPLE-CENTRED APPROACHES TO WATER AND ENVIRONMENTAL SANITATION

Two approaches to rural sanitation delivery: Case study of Kwa Zulu-Natal, South Africa

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Sanitation service delivery in South Africa is directly linked to the history of the country. The number of households lacking basic sanitation services in 2001 was approximately 4.7 million. This amounts to approximately 18 million people or 42% of the population. During August 2000 to June 2001, South Africa experienced one of the worst cholera epidemics in the country's recent history. The outbreak was linked to outbreaks in Mozambique, Swaziland and Zambia. By December 2002, South Africa had reported a total of 151 852 cholera cases. The efforts to combat the epidemic involved government at all levels and included interventions such as access to potable water, sanitation, and education. This paper compares the conventional approach to sanitation which was implemented before the cholera outbreak to the accelerated approach which evolved in the KwaZulu-Natal Province as a result of the outbreak.

Introduction

Before the first democratic elections in South Africa, there was no national entity that was responsible for water supply and sanitation in the country. The responsibility was fragmented and allocated to the local government in the previous four independent states, six self-governing territories and the dominant Republic of South Africa territory. This resulted in differing levels of service. The first democratic election in 1994 saw the National Department of Water and Forestry (DWAF) taking responsibility for addressing the sanitation service delivery backlog in the country. A budget of several million rand was allocated annually to addressing this need and the responsibility of ensuring that this money was appropriately spent rested heavily on this Department. However, an assessment of the Census 2001 results indicated that at the time, the number of households lacking basic sanitation services was approximately 4.7 million (Statistics South Africa, 2003) (assuming that basic sanitation services included flush toilet and (VIPs)). This amounts to approximately 18 million people or 42% of the population.

Provision of sanitation facilities to the poor remains a major challenge in the country. Those who have inadequate sanitation facilities have bucket systems, unimproved pit toilets or use the bush. When sanitation systems are lacking or inadequate, the impact on the health of the community and the negative impact on the environment can be extremely serious. This was witnessed by an epidemic outbreak of cholera in August 2000 in South Africa.

The 2000/2001 Cholera outbreak in South Africa.

From August 2000 to June 2001, South Africa experienced one of the worst cholera epidemics in the country's recent history. The outbreak was linked to outbreaks in Mozambique,

Swaziland and Zambia (WHO, 2002). By December 2002, South Africa had reported a total of 151 852 cholera cases to WHO (WHO, 2000b).

In the 2001 outbreak WHO (2002) reported that Africa accounted for 94% of the total global cholera cases, of which, South Africa accounted for 58% of the cases in that year. Most of the cases reported in South Africa during this outbreak were located in the KwaZulu-Natal (KZN) province but it rapidly spread to other provinces. It is important to note that the Case Fatality Rate (CFR) levels for the year 2001, where South Africa experienced the worst cholera outbreak (peaking at 106 151 reported cases), the country also recorded one of the lowest CFRs at 0.22%. The overall global CFR declined to 1.48% in 2001, as compared to 3.6% in 2000, owing to the extremely low rate recorded by South Africa (WHO, 2002). The fact that the country dealt with the outbreak in an open and transparent manner, contributed to demystifying the disease. The efforts to combat the epidemic involved government at all levels and included interventions such as access to potable water, sanitation, and education.

This paper compares the two approaches, i.e. conventional approach to sanitation which was implemented before the cholera outbreak to the fast-track approach which evolved as a result of the outbreak.

The conventional approach to rural sanitation delivery in South Africa

Before the 2000/2001 cholera outbreak, sanitation programmes in KZN were implemented mainly through two funding sources i.e. through the DWAF funded Community Water Supply and Sanitation (CWSS) programme and through NGO funders.

The government funded CWSS programmes were imple-

mented in two phases, namely, Phase A and Phase B. The Phase A programme involved capacity building of project management structures for the administration of these projects, development and execution of a health and hygiene awareness campaign, training of key village representatives to implement the programme and the construction of demonstration toilets. Phase B entailed the continuation of the health education programme with reduced inputs from the consultants and the provision of latrine facilities, which met the basic RDP standards. i.e. VIP or their equivalent. The health and hygiene awareness programme continued in phase B, aimed at promoting community participation and ownership and creating a long-term sanitary health monitoring programme within the communities.

A Sanitation Impact Assessment carried out on the CWSS sanitation programme in 2001 (CSIR, 2001), concluded that:

- Health and Hygiene awareness campaigns did not always result in behaviour changes
- Environmental conditions were not always conducive to the construction of VIPs
- Some superstructure design flaws existed i.e. particularly zinc superstructures
- Material quality use in some projects was unacceptable
- Operation and maintenance training had been neglected
- The poorest-of-the-poor were unable to afford the monetary contribution required for the construction of a VIP
- The elderly and disabled were not provided for
- The implementing process of projects often resulted in long delays between phase A and B
- The subsidy amount of R600 for the construction of a toilet was too low and was not changing with inflation
- The implementation of sanitation programmes was very slow
- The organization capacity to implement these programmes was weak at all levels of the programme

An evaluation of the Phase A stage (SANTAG et al., 2001) of a similar programme in the Uthukela District of Kwa ZuluNatal highlighted the need for more women to be employed during the phase B implementation; the project steering committee had a weak understanding of financial matters relating to the project; there was no clear direction pertaining to how pits would be emptied when full; there was also a need for a greater awareness particularly relating to subsidy application and knowledge of the project role players and lastly, the evaluation showed that health and hygiene awareness campaigns should focus on infective organisms that are spread from hand to mouth and from mouth to hand.

Accelerated sanitation programmes in Kwa – ZuluNatal

Two districts were allocated emergency funding for the implementation of accelerated sanitation programmes during the cholera outbreak of 2001 i.e. Ugu and Uthungulu Districts. These districts were selected based on high incidents of cholera in the area and a high level of need for sanitation facilities.

The aim of the programmes was to implement an accelerated sanitation programme to help in the prevention of the spread of cholera by promoting community awareness of sanitation and health and hygiene and by constructing toilet facilities in cholera affected areas. Fast-track programmes were implemented outside the standard Phase A/Phase B implementation approach, with these programmes being implemented in a single Phase. Awareness, capacity building, training, construction and health and hygiene activities were implemented as a single stream within these programmes.

An evaluation of the Ugu and uThungulu fast-track sanitation programmes carried out in February 2003 highlighted a number of lessons learnt from these programmes (DWAF, 2003). Lessons learned were that:

- Fast-track programmes require strong project management on a full time basis
- Dictating rates for Contractors does not allow for incentives for the work to be completed within a minimum timeframe
- Contract rates should be based on the size of the programme, the extent of the interventions and the capability of the Contractor and not on a percentage of the programme cost
- The ordering of materials should only be done from suppliers that have been awarded a watertight contract for material supply and installation
- Rushing to spend the allocated budget before the end of the financial year resulted in the real reason for the programmes being compromised i.e. the control of the spread of cholera through change in sanitation and hygiene behaviour
- Fast-track programmes should clearly define roles and responsibilities for all stakeholders
- Lastly, according to DWAF, 2003, sanitation project steering committees have to operate differently in an accelerated programme.

It was recommended that a fast-track sanitation programme only be implemented where no other options are available. Although this type of intervention is ideal for the rapid construction of sanitation facilities, the areas of the intervention that should be key to the programme i.e. changing of sanitation habits and hygiene behaviours tend to be ignored or only touched on during the fast-tracking process. The main cholera intervention targets are therefore, not achieved. For successful implementation of a fast-track programme, more than the usual amount of financial and human resources must

be made available and sufficient time should be taken in the planning and design of the programme (DWAF, 2003).

Comparison of sanitation implementation approaches at a programme level.

A comparison of the standard Phase A/Phase B and the fast-track sanitation programmes was done at a project level by one of the implementing agents in KwaZulu-Natal (Aquamanzi, 2002). This Implementing Agent (IA) had submitted a Business Plan (BP) in January 2000 for the implementation of sanitation projects in seven villages in the province. This Business Plan was approved in March 2000 and was based on the standard sanitation approach of Phase A/Phase B. The BP planned the construction of 9156 toilets. By October of the same year, the only construction that had taken place within the villages was the Demonstration toilets. Human resource and financial expenditure had been concentrated on an extensive awareness and training campaign within the villages.

With the outbreak of cholera in the province in August 2000, the same IA submitted a Business Plan for a fast-track sanitation programme in another seven villages. The Business Plan, showed the planned construction of 9245 VIPs within these villages (refer to Table 1)

A comparison of the two programme approaches shows that in 20 months of the implementation of the standard sanitation programme, the highest number of toilets constructed in any one village was 712. This was however, only 85% of the planned toilets. In the fast-track sanitation approach, five of the original seven villages had 100% completed the

construction of toilets within eight months of implementation of the programme.

A comparison of the total interventions shows that within eight months of the implementation of the fast-track programme, 95 % (8551) of the planned toilets had been completed. This equated to 1 068 toilets being constructed per month. However, the standard sanitation approach had only shown 35 % (2 361) of the planned construction completed within 20 months of implementation. This equated to 118 toilets per month.

The fast-track sanitation programme had delivered almost four times the number of sanitation facilities in less than half the timeframe of a standard sanitation programme.

Comparison of sanitation implementation approaches at a provincial level

A comparison of the programmes at a provincial level yielded similar results to the project level review. Accelerated sanitation programmes had delivered over 5 times more sanitation facilities in almost half the time of a standard sanitation programme.

In addition, the cost per household for a standard sanitation programme is higher than that of the accelerated intervention programme (refer to figure 1). Since the cholera outbreak of 2000/2001 all new sanitation programmes within the province are implemented in a similar manner to the accelerated sanitation i.e. programmes no longer implemented with Phase A and Phase B but rather as an ongoing process. The choice of sanitation technology/interventions in these programmes is based on affordability, acceptability, accountability, attainability, appropriateness, accessibility and awareness.

Table 1. Details of Aquamanzi Standard and Accelerated Sanitation Programme (Aquamanzi, 2002)

Programme Type	District Municipality	Village Name	No. of planned toilets
Phase A /Phase B	Umzinyathi	Nguthu 1	1400
		Nguthu 2	706
		Ndantshana	840
	Uthungulu	Masulumane 1	560
		Madidima	850
		Godide	2800
		Kwambonambi	200
TOTAL			9156
Accelerated sanitation	Illembé	Glandale	2040
	Uthungulu	Madlebe 1	800
		Madlebe 2	1600
		Buccanaa	611
		Dondotha	800
		Mazimazana	2194
		Nkanini	1200
TOTAL			9245

Concerns and successes of the fast-track sanitation programme

The concerns and successes of the accelerated sanitation programme included:

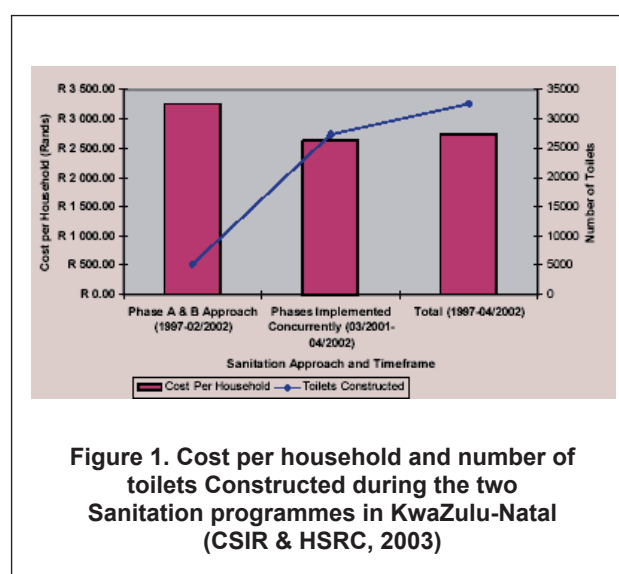


Figure 1. Cost per household and number of toilets Constructed during the two Sanitation programmes in KwaZulu-Natal (CSIR & HSRC, 2003)

- **Delivery of Sanitation Facilities:** The accelerated sanitation programme has made a significant impact in the delivery of sanitation facilities to rural areas in KwaZulu-Natal.
- **Compromising of Health and Hygiene programmes:** The fast-tracking of sanitation delivery during the cholera outbreak resulted in the health and hygiene components of the programme being compromised. The focus was on infrastructure delivery rather than on behaviour modification.
- **Single Phased Sanitation Delivery:** The fast-tracking process combines the Phases of a project, expedites sanitation delivery and reduces sanitation costs.
- **Local Technologies:** The use of local materials in the construction of technologies vastly reduces the cost of a sanitation unit, and hence the projects were able to reach the poorest-of-the-poor.
- **Combining Projects:** The implementing of more than one project within the same District/Municipality/area greatly reduced the cost of implementation.
- **New Sanitation Policies:** The cholera outbreak has prompted the design and development of KwaZulu-Natal Provincial Sanitation Strategy that includes a section on Health and Hygiene. It is through this strategy that Health and Hygiene materials were developed in KwaZulu-Natal, these are now used country wide to benefit other communities.

Lessons learned

Many sanitation lessons were learned from the cholera outbreak in 2000 / 2001. It highlighted that sanitation should receive a higher level of prioritisation within the water services implementation programme. Water and sanitation delivery should be implemented simultaneously and long-term sanitation programmes should be designed and planned. School and community sanitation programmes should be implemented by one agency under the responsibility of local authorities. Sanitation programmes should draw on local labour and bring the widest possible range of benefits to the community. In addition, the system of Community Health Workers (CHW) should be strengthened and expanded. Lastly, that health and hygiene promotion should involve advocacy and education.

Conclusion

Since the cholera outbreak, government's attention has been focused on delivery of sanitation. However, as the results of

Census 2001 show, South Africa still has a long way to go to achieve their target of clearing the sanitation service backlog by 2010. Meeting this and the Millennium Development Goals will require massive human and financial resource inputs as well as serious political will and commitment.

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