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IMPLEMENTATION COMPLETION REPORT
(PPFB-P1950 PPFB-P1951 CPL-38070 SCL-3807A SCPD-3807S)

ON A

LOAN

IN THE AMOUNT OF US\$29.0 MILLION

TO THE

KINGDOM OF SWAZILAND

FOR THE

SWAZILAND URBAN DEVELOPMENT PROJECT

October 4, 2005

Water and Urban 1
South Africa, BLNS Country Department
Africa Regional Office

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CURRENCY EQUIVALENTS

(Exchange Rate Effective May 31, 2005)

Currency Unit = Swaziland Lilangeni (pl Emalangeni)
SZL 1 = US\$ 0.17
US\$ 1 = 6.16

FISCAL YEAR

April 1 March 31

ABBREVIATIONS AND ACRONYMS

CAS	Country Assistance Strategy
EIRR	Economic Internal Rate of Return
EOP	End of Project
GOS	Government of Swaziland
ICB	International Competitive Bidding
ICMA	International City/City Managers' Association
LCB	Local Competitive Bidding
MBCC	Mbabane City Council
MHUD	Ministry of Housing and Urban Development
MZCC	Manzini City Council
NPV	Net Present Value
O&M	Operations and Maintenance
PCU	Project Coordination Unit
PDO	Project Development Objective
PPF	Project Preparation Facility
PSC	Project Steering Committee
SAR	Staff Appraisal Report
SBS	Swaziland Building Society
SEA	Swaziland Environmental Authority
SEB	Swaziland Electricity Board
SNL	Swazi Nation Land
SOE	Statement of Expenditure
SWSC	Swaziland Water Services Corporation
TA	Technical Assistance
TSU	Technical Services Unit

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SWAZILAND
Swaziland Urban Development Project

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MAP IBRD No. 33491

<i>Project ID:</i> P002669	<i>Project Name:</i> Swaziland Urban Development Project
<i>Team Leader:</i> David G. DeGroot	<i>TL Unit:</i> AFTU1
<i>ICR Type:</i> Core ICR	<i>Report Date:</i> October 4, 2005

1. Project Data

Name: Swaziland Urban Development Project

L/C/TF Number: PPFB-P1950;
PPFB-P1951; CPL-38070;
SCL-3807A;
SCPD-3807S

Country/Department: SWAZILAND

Region: Africa Regional Office

Sector/subsector: General water, sanitation and flood protection sector (70%); Roads and highways (14%); Central government administration (11%); Sub-national government administration (4%); Power (1%)

Theme: Access to urban services and housing (P); Other urban development (P); Land administration and management (P); Municipal governance and institution building (S); Participation and civic engagement (S)

KEY DATES

	<i>Original</i>	<i>Revised/Actual</i>
<i>PCD:</i> 12/02/1986	<i>Effective:</i>	01/23/1996
<i>Appraisal:</i> 06/29/1993	<i>MTR:</i>	05/10/2000
<i>Approval:</i> 11/15/1994	<i>Closing:</i> 03/12/2002	03/31/2005

Borrower/Implementing Agency: GOVT./Government of Swaziland/ Ministry of Housing and Urban Development; Swaziland Water Services Corporation; Swaziland National Housing Board; Mbabane City Council; Manzini City Council

Other Partners: UNDP, DFID (formerly ODA)

STAFF	Current	At Appraisal
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2. Principal Performance Ratings

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HL=Highly Likely, L=Likely, UN=Unlikely, HUN=Highly Unlikely, HU=Highly Unsatisfactory, H=High, SU=Substantial, M=Modest, N=Negligible)

Outcome: S
Sustainability: L
Institutional Development Impact: M
Bank Performance: S
Borrower Performance: S

Quality at Entry: QAG (if available) ICR
S

Project at Risk at Any Time: Yes

Project at Risk at Any Time Rated 'Yes' because of Age of project and Country Risks

3. Assessment of Development Objective and Design, and of Quality at Entry

3.1 Original Objective:

The project was conceived as representing the first phase of a long-term urban development program aimed at increasing the delivery and effectiveness of urban management services and improving living conditions of low income urban households. Its original Project Development Objective (PDO) in the Staff Appraisal Report (SAR) was twofold. It was:

- (a) to provide a basis for sustainable urban development through emphasis on policy reform, institutional development, pilot land reform, participatory development, and housing solutions for moderate and low income urban households; and
- (b) to address critical infrastructure needs (water, sanitation, waste disposal and roads).

The PDO was further elaborated in the Loan Agreement where it was stated that the project's main aims were:

- (a) to continue efforts undertaken during project preparation to improve the sectoral policy framework;
- (b) to increase the long-term effectiveness and efficiency of key sectoral institutions, particularly in the areas of financial management and operations and maintenance, as well as build the implementation capacity of executing agencies and other sectoral support institutions; and
- (c) to address critical infrastructure needs in the major urban centers of Mbabane and Manzini by:
 - (i) reducing the current overload on sewerage facilities, and enhancing the level of sewage treatment; and
 - (ii) upgrading on-site infrastructure (roads, footpaths, drainage, water supply, sanitation, and communal structures) for approximately 5,000 informal urban housing sites.

Assessment of DO

The Project DOs were clearly defined and reflected country priorities both at the time of appraisal and in subsequent years. As there was no Country Assistance Strategy (CAS) for Swaziland, the project responded to both key GOS priorities and to the 1993 Public Expenditure Review which had identified poor physical infrastructure and a shortage of skilled manpower in the public sector, as constraining private sector growth. Given the low volume of prior Bank lending to the country, the project judiciously limited its geographic scope to the two main cities, Mbabane and Manzini, and avoided establishing new delivery agencies by working with existing institutions. It incorporated lessons learned from previously implemented relevant UNDP and water projects, specifically, to provide for greater managerial autonomy of the Water and Sewerage Board (later to become the SWSC), and to place more emphasis on cost recovery and improved internal efficiencies of the implementing agencies. It also incorporated Bank experience from relevant urban sector projects in the region.

The project preparation process was lengthy and comprehensive and the eventually approved project design was substantially scaled back from its original scope as a result of these initial feasibility assessments. Project design included a number of risk mitigation strategies. Emphasis was placed on matching phased improvements in institutional capacity building in the IAs to the rate of physical investments to be made and ensuring processes for close participation and involvement of settlement

upgrading beneficiaries throughout project preparation and implementation. A number of institutional strengthening measures were put in place, including contracting in TA to the PCU and IAs, establishing implementation units in each of the IAs and establishing an inter-agency Project Steering Committee (PSC) which reported to an inter-Ministerial grouping (Project Coordinating Group) with the specific aim of routinely monitoring project activities and coordinating the various agencies.

Notwithstanding these strengths, the lack of experience in the Swazi civil service, especially in the (then) newly established MHUD, and the lack of previous experience within Swaziland with Bank projects and operational procedures and guidelines, the project set high objectives from the outset. Inherently, sustainable service delivery, involving as it did under the project, four main implementing agencies as well as a number of other support agencies of the central government, ran the risk of being overly complex. The timing and implementation of various sub-components, each implemented by different agencies, was to be a source of ongoing difficulty throughout the life of the project, as will be discussed in later sections. However, in spite of the project's structural challenges, the DOs were still largely achieved.

3.2 Revised Objective:

The project objective was not revised.

3.3 Original Components:

The project consisted of four original base components as follows:

1. **Policy and institutional reform component** (US\$4.2 million, 10% of the original total project cost of US\$51.5 million).

The component comprised two sub-components:

- *Policy development and review of legislation.* Assist MHUD in addressing policy issues critical in the near term to the success of the project components and in the longer term, to achieving a well functioning urban sector.
- *Institutional support and development.* Increase the long term effectiveness and efficiency of sector institutions, in particular financial management, O&M capacity and project implementation capacity of IAs and other supporting institutions.

2. **Rehabilitation and expansion of city roads component** including the relocation of power-lines and development of solid waste facilities (US\$9.3 million, 21% of the original total project cost of US\$51.5 million).

To address the lack of past investments in the municipal sector, this component aimed (i) to rehabilitate existing city roads; (ii) to provide new access to solid waste sites and housing settlements to be upgraded under the project; (iii) to develop new solid waste sites and provide vehicles and equipment to improve operations and maintenance.

3. **Rehabilitation and expansion of water and sewerage services component** (US\$19.1 million, 43% of the original total project cost of US\$51.5 million).

The component was aimed at addressing a backlog of investment needs in water supply and sewerage systems in both cities. At the start of the project, waste loads to existing sewage treatment works in the cities were ten times higher than the design capacities of the existing works which were small pond systems that had been built during the colonial era. The overload resulted

in major environmental and public health problems from the inadequately treated effluent being disposed into waterways. Also, the water supply network was in need of rehabilitation and a leak detection study urgently required. Both water and sewer networks needed to be expanded to accommodate new city growth, in particular the sites to be upgraded under the project.

4. **Residential housing sites and on-site infrastructure component** (US\$7.6 million, 15% of the original total project cost of US\$51.5 million). As half of the population of Mbabane and Manzini lived in informal, poorly serviced areas, the component was aimed at upgrading on-site infrastructure (roads, footpaths, drainage, water supply, sanitation, wash points, refuse collection points, street lighting and landscaping) for 5,000 informal urban housing plots in five locales. To the extent possible, upgrading would accommodate the existing settlements and, through adjustment of service standards, ensure that plot costs would be affordable to existing households in the areas.

3.4 Revised Components:

Although the components were not formally revised, a number of Loan amendments were made during the life of the project. Two extensions to the Loan closing date and two reallocations of funds between categories were approved. The table in Annex 9 sets out the value of each of the original components as supported by the IBRD Loan, the formal reallocation of funds and the *de facto* changes made within the last six months of the project as the final contracts were completed. No components were added to or eliminated from the project but changes were made to the funding split between components and therefore to the emphasis of support at different phases of the project.

At the start of the project, the major portion of project finances (70%) was dedicated to infrastructure and associated municipal equipment investments – rehabilitation and expansion of citywide roads, water, sewerage and solid waste facilities, upgrading of services in informal areas. This emphasis reflected the fact that these facilities had lacked significant investment since colonial times and were severely overloaded. The remaining components were aimed at supporting GOS to develop key policy and institutional reforms and for direct project implementation. During the course of project implementation, the infrastructure components were increased to 81% of the total Loan costs in response to the Borrower's requirement (based on community reactions) that the technical design of the Sewage Treatment Plants (STPs) be more sophisticated than originally designed.

3.5 Quality at Entry:

(Moderately Satisfactory)

As the project was prepared in 1993, there was no quality at entry review at the time. The following is based on a retrospective evaluation of the QAE.

The project's Quality at Entry had a number of positive attributes. The Project DOs and components were clearly defined and even though the Bank had no approved CAS in place, the DOs met GOS' development priorities as articulated at the time, as noted above. In addition, the SUDP design was informed by the outcomes of a related UNDP-funded project of 1987 and also took into consideration a number of diagnostic studies carried out during project preparation as well as the lessons of a previous Bank supported water and sewerage project (1974). The project design also sought to incorporate Bank lessons learned from urban sector projects in the region.

The project also had a specific component aimed at upgrading informal settlements with resources provided for large scale participatory design and implementation activities by the communities. An important, explicit requirement of the project was that any involuntary resettlement costs, as a result of infrastructure

construction or site upgrading, would be subject to the Bank's involuntary resettlement and compensation policies and GOS would bear the costs of compensation. Finally, the project design was prudent in limiting the geographic scope to the two cities of Mbabane and Manzini and it avoided establishing any new agencies for implementation.

However, the quality at entry is not rated fully Satisfactory for two important reasons. Firstly, the project activities itemized under each component compounded by the long list of agencies involved in the project were unrealistically ambitious and complex, particularly given the low institutional base on which the project was commencing. It was this structural complexity, more than any other factor, that was behind the slow start up of the project (14 months between project approval and effectiveness), slow implementation (two extensions amounting to an eventual nine year project life), and the disjointed pace of implementation between agencies throughout the life of the project, despite the inputs to strengthen the participating institutions.

Secondly, at the time of project entry, the Bank had a wealth of international experience in informal settlement upgrading -- experience that was only partially taken into account during project design. The documented international experience at the time, ultimately always led to the same conclusion regarding upgrading -- that whilst there were a number of successes that could be pointed to, settlement upgrading was an inherently complex process and "... considerable delays [could be expected to occur] ... in the provision of ... services" (Keare and Parris, 1982, p.vii). A second important international lesson had been that whilst projects could be successfully designed to be affordable (even down to the 20th income percentile), full cost recovery from households in upgrading projects -- and thus ultimate sustainability if government subsidy was to be avoided and replicability assured, was almost universally problematic, not so much because of non-affordability of the housing and services but due to lack of political will on the part of implementing agencies and governments to enforce payments (Keare and Parris, 1982). As part of project preparation, substantial activities took place to engage the local communities in testing the feasibility of unit costs, willingness to pay for improvements and similar. However, during the hiatus between these early activities and actual implementation, many of these participatory gains were lost.

Project design for the site specific upgrading component (albeit only 15% of the total project costs) was far too complex, involving as it did, a plethora of service provision agencies to deliver a broad range of services, new and unproven tenure arrangements on Swazi Nation Land, involuntary resettlement and untested private sector housing finance to 'take out' the primary developer (at that time, SNHB).

Compounding the complexity, SNHB, primarily responsible for the upgrading component, was already committed for the next five years on housing projects over and above the SUDP and projects that were, in financial terms, three times the size of the UDP itself (*at Zakhele (Two Sticks), Helemisi, Makololkholo, Sterkstroom, Embangweni Phase IV, Mangozeni, Sidwashini and Piggs Peak (John Burrow/Euroconsult, 1994)*). This raised the large (and unaddressed) risk in project design that the cash flow position if not overall financial viability of the Board would come under extreme pressure, as would the staff of the agency, who were expected to cope with the new workload under the project. Furthermore, the Industrial Housing Company (IHC), predecessor to the SNHB, previously had undertaken a number of upgrading attempts in Swaziland (for example, at Sidwashini) -- but none of them had been successful. While the SUDP project design set out to prove the ability of residents in upgrading areas to pay for services, it did not adequately address their willingness to pay. The precedent set by IHC's prior upgrading attempts should have alerted project designers that the upgrading component faced significant risks. This is not to say that upgrading should not have been attempted under the project. What it does point to, is that the service provision activities should have been down-sized to three or four achievable objectives and SNHB clearly identified as only an interim implementing agency (see section 8, Lessons Learned).

4. Achievement of Objective and Outputs

4.1 Outcome/achievement of objective:

Overall Rating - Satisfactory

The overall outcome of the project is rated as Satisfactory because:

- (i) Notwithstanding the ambitious scope of the objectives and the complexity of the project's design, all but one of the objectives have been met in full with a second being met in part and on-going by the Borrower;
- (ii) the objectives were and remain relevant to the Borrower's development priorities;
- (iii) the investments made on the whole are sustainable with both the central government and the sub-national agencies making annual budgetary provisions for maintenance of the investments made and setting tariff and user fees close to operating expenses (although some user fees are subsidized);
- (iv) All investments other than the water and solid waste investments had acceptable EIRRs (see Annex 3). In the case of water supply and the solid waste site, substantial environmental and public health benefits have accrued; and,
- (v) The major objective of institutional strengthening and policy reform has been met, as measured by values over the last three years of the project's key performance indicators (see Annex 1).

The SAR for the project did not assign specific priorities to the objectives, so the following assessment is based on equal weight being given to all the objectives.

Objective: To provide a basis for sustainable urban development through emphasis on policy reform, institutional development, pilot land reform, participatory development, and housing solutions for moderate and low income urban households.

The rating for achievement of the *policy and pilot land reform and housing solutions sub-component of the objective is Highly Satisfactory.*

During project preparation and in the early years of the project, a large number of key policy studies were undertaken and, in the main, subsequently adopted by the Borrower. Finance for all of the studies was primarily from GOS' own resources -- a measure of the Borrower's substantial commitment towards assessing and adapting its policy framework (*the exact amount of Government contribution exceeded the figures captured through the Project accounts (see Annex 2) as the Borrower also paid for additional related studies from other cost centers in its budget*). Throughout the life of the project, even with the extended closing dates, the early momentum as reflected in the above studies was maintained, all aimed at strengthening the policy framework and in better defining the relations between central and local governments, with later studies being financed through the Loan.

Among the many important achievements are:

1. The introduction of **99-year leaseholds over Swazi Nation (communal title) Land**, first in the project specific upgrading areas and subsequently in other peri-urban areas in the country. The legally registered leaseholds, not only resulted in convertible tenure (*restricted to Swazi citizens*), but also, most importantly:
2. Establishment of **ownership of urban land by women headed households** for the first time in the

- Kingdom's history.
3. The Environmental Management Act became law in 2002, and, through the review procedures established under the SUDP, the introduction and **mainstreaming of environmental management and use of comprehensive mitigation plans** into the implementing agencies.
 4. In the final year of the project, all Town and City councils in Swaziland came together in a “**Local Government Responses to HIV/AIDs**” initiative and are in the process of developing Action Plans which map out appropriate responses to the impact of HIV/AIDs on their constituent communities.
 5. **Revision of the Rating Act** is ongoing, providing local governments with greater powers of foreclosure (leading, in part, to significant improvements in rates collections, see below and Annex 1) and making provision for the central government to pay rates (property taxes) to the local governments – a measure that the central government has been honoring since 1996.
 6. A series of initiatives focused on **Municipal Finance** bringing together local governments, private sector financial institutions including the Swaziland Stock Exchange, the Reserve Bank and the central Ministries to identify the options for private sector involvement in financing of municipal infrastructure.
 7. As a follow on, the two City Councils and the SWSC voluntarily underwent commercial **credit rating**, the results of which were incorporated by the agencies into their strategic planning and budgeting frameworks.
 8. The **Cabinet adopted the recommendations of an intergovernmental fiscal transfer study** which introduced the first phase of a transparent, formula-derived intergovernmental fiscal transfer system aimed at underpinning the fiscal health of local governments.

Finally, although the objective of servicing and upgrading 5,000 residential plots was not fully achieved (see discussion below), well defined procedures for working with communities in a participatory manner in the design and planning of the upgrading areas were successfully implemented (Msunduzi and Nkwalini) and a Resettlement Policy was formulated and adopted. The case of Msunduzi upgrading was written up and disseminated through the World Bank's *Civis* as an **international best practice in community participation**. All four implementing agencies hired fulltime Community Liaison Officers onto their staff. Supporting the achievements of the urban upgrading processes, a Regional Trust Funded study was undertaken on **Institutional Options for Upgrading in Peri-Urban Areas** to determine requirements for sustainable informal settlement upgrading within both local government and traditional leadership frameworks.

The rating for achievement of *the institutional development sub-component of the objective is Satisfactory*.

There have been measurable increases in effectiveness and efficiency of the key sectoral institutions, as evidenced by the values of the key performance indicators as compared between the start and end of the project (see Annexes 1 and 9). Key examples include:

9. At the start of the project, the cities were collecting only 65% of their billed rates (property taxes) from land owners. By the end of the project **collection efficiency had risen to 80%**, reflecting the improved capacity of the revenue collectors, supervisors, and billing and finance staff as well as the revisions of the Rating Act which resulted in central government paying due rates.
10. The improved financial performance of SWSC is shown in that the Corporation had a net loss per annum of E20 million in the base year 1993 but **by 2004 SWSC had a net surplus of E1.653 million**, as a result of an expansion to operations and customer base as well as improved billing

- and revenue collection systems.
11. Related to this, SWSC's percentage of unaccounted for water **dropped from 47% at the start of the project to 28% by EOP.**
 12. Increases in efficiency were matched by staffing effectiveness – at the start of the project, the SWSC operated with **53 staff per 1,000 connections**, by the end of the project the number had dropped to **18 per 1,000 connections.**
 13. As a further measure of increased efficiency, the four main IAs had independently audited financial accounts carried out on an annual basis throughout the life of the project. **Audits were submitted to the Bank on time each year with few major management notes** from the auditors.
 14. **Human Resources Reviews with associated restructuring were carried out** in both City Councils and under the project, specific training and technical assistance also was provided to MHUD, the Registrar of Deeds, the Surveyor General's Office and the Swaziland Environmental Authority (see Annex 13).
 15. **All cadastral records of the country have been imaged and doc-banked** and the key agencies are well-equipped with state of the art hardware and software to respond to cadastre registration needs.

Objective: To address critical infrastructure needs (water, sanitation, waste disposal and roads) in the major urban centers of Mbabane and Manzini

The rating for achievement of *the critical infrastructure objective is Satisfactory.*

Sixty four percent (US\$28.4 million) of the total project costs as designed were used to support the rehabilitation and extension of citywide infrastructure and procurement of municipal equipment for operations and maintenance in Mbabane and Manzini. All contracts under these components were completed by the end of the project, save for two which were funded under different sources.

By 2001, all roads, water and landfill contracts in Mbabane and Manzini had been completed. This included the construction of three new roads, two roads maintenance contracts, two citywide water upgrading contracts and the construction of a landfill (solid waste) site. In the final four years of the project, all remaining contracts were completed, i.e. further water supply works in Mbabane including a new water treatment plant, sewerage reticulation in both cities and a leachate treatment facility in Mbabane, resulting in significant improvements in terms of road access and water supply reliability and quality being evident in both cities.

After lengthy delays, in part due to the complete re-design to a higher technical standard than envisaged at appraisal and in part due to community resistance to the original siting of the works, two large sewage treatment plants were commissioned in Mbabane and Manzini in February 2005 and March 2005 respectively. It is variously estimated that the plants will only reach their peak capacities in the next 20-25 years. The effluent standards at the plants are of a very high quality and comply with the stringent SEA requirements of 10mg/l BOD.

Both cities also procured municipal equipment through five separate contracts to strengthen their operations and maintenance departments (see Annex 11).

As a result of the investments made, the backlog in critical infrastructure in the two cities has been addressed and will be sufficient for the next decade or more. Monitoring indicators to measure the outcome of achievement of the objectives are shown in Annex 1. From the indicators, it can be seen that there have

been quantifiable and sustained improvements in the sanitary conditions and accessibility in both cities, for example:

- *Expand water and sewerage network:* In the 1993 base year there were 16,466 metered water connections and 4,028 sewerage connections in the two cities. By the end of the project the connections had risen to 28,007 water and 6,721 sewerage connections, **an increase of 70% and 67% respectively.**
- *Improve quality of road network:* In 1993, **139 km** (64 paved + 75 unpaved) of road in Mbabane and **122 km** (41 paved + 81 unpaved) in Manzini were being maintained annually. By the end of the Project, the Cities reported that this had increased to **165.6km** in Mbabane and **131.6km** in Manzini.
- *Improve solid waste collection:* In the case of the cities, **in 1993 a combined total of 138 tons per month solid waste was being collected and by the end of the project this had increased by a factor of 8, to a combined total of 1,080 tons per month.** In the base year 1993, whereas only 46% of the Mbabane urban area was covered by solid waste collection, by the end of the project this had increased to 80% and 85% in the case of Manzini.

Objective: To ... upgrade on-site infrastructure (roads, footpaths, drainage, water supply, sanitation, and communal structures) for approximately 5,000 informal urban housing sites.

The rating for achievement of *the upgrading of informal settlements objective is rated as Moderately Unsatisfactory.*

Although the specific objective of delivering 5,000 upgraded residential plots was not achieved by EOP, in the latter stages of the project, implementation momentum had been gained and commitments made in the Borrower's 2005/06 national budget to provide on-going own-resources to the IA to continue with the upgrading in the remaining three areas (**2,500 sites are now being upgraded in Mbabane, with funding from own and national sources, and planning is underway—supported by a Bank-managed Cities Alliance grant—for upgrading of all 7,000+ remaining informal sites in that city**). In addition, many of the community liaison functions associated with participatory upgrading have been mainstreamed within the Councils – each Council now employs full time Community Liaison Officers and has adopted plot pricing simulation models. Of particular importance too, is that women headed households are now eligible for 99-year leaseholds approved in their own names for the first time (prior to this, they were treated as minors and unable to hold title to Swazi Nation Land). However, it must be noted that cost recovery in the upgraded areas continues to be problematic.

Thus whilst the physical outcomes of delivery are being achieved, albeit at a rate slower than originally planned, full cost recovery, and therefore assured long term sustainability in the absence of explicit government subsidy, has not yet been achieved (it must be noted that in a recent 25 year review—principally authored by Robert Buckley--of Bank experience with housing and upgrading, the principle of “full” cost recovery is critically reviewed and the importance of indirect and direct subsidies is acknowledged, contrary to Bank policy at the time of SUDP design in the early-90s).

4.2 Outputs by components:

Of the 32 project contract packages, all were completed save the two which were separately funded and the three upgrading and associated small works packages which are on-going. By August 2005, 99.98% of the Loan had been disbursed.

1. **Policy and institutional reform component** (US\$4.2 million SAR; US\$3.94 million actual): *Rating: Satisfactory.*

The policy reforms sub-component is rated as Highly Satisfactory.

The policy reform agenda under the project was extremely ambitious, all the more so given the strongly conservative traditional customs of the country, the dearth of bilateral programs which might have complemented the SUDP Loan and the low institutional base on which the project started. GOS itself financed the shortfalls and a set of broad ranging and fundamental reforms were achieved with support from the project. Importantly, through the introduction of **99 year leasehold over Swazi Nation Land, women headed households** are permitted, for the first time, to have security of tenure in their own right. Also of importance, the Project set out to and did **alleviate environmental degradation** in urban and peri-urban areas by the construction of roads and associated storm water drainage. Environmental planning and assessment has been mainstreamed into the design of facilities and, where inevitably there was impact from the construction works undertaken, environmental comprehensive mitigation plans have been introduced for all significant developments to minimize and control the impacts. During the course of the project, an Environmental Management Act and the Environmental Audit Assessment and Review Regulations (2000) were passed.

Important reforms also have been achieved in **defining the parameters of central-local government relations and setting a sustainable framework for the municipal sector**. At the start of the project, there were no elected local governments in Swaziland – mayors and councilors were appointed by the Minister and local elections were held for the first time in 1994. Under the project, the Physical Planning Act was revamped, an Urban and Peri-Urban Land Management Study with recommendations was concluded and subsequently, a comprehensive study of all peri-urban areas and growth points in the country was carried out and recommendations made and agreed upon for working with traditional and community-based institutions in the areas to provide services and development control. The Ratings Act was reviewed and continues to be under discussion between local governments and the central ministries, the first phase of an inter-governmental fiscal transfer policy was designed and is under implementation and, in an effort to improve market credit-worthiness, and three sub-nationals underwent an independent credit-rating exercise. Finally, local governments are explicitly grappling with HIV/AIDs and how it affects their constituents and operations and are developing coordinated response plans to this challenge.

However, in spite of the major policy reforms undertaken by the central government in Swaziland, centralized controls are still strong. For example, tariff and user fee increases need central government approval and frequently the approvals are only given late in the financial year and do not reflect the forecasted financial needs of the agencies (see Annex 11). This tends to undermine the autonomy of the sub-nationals and in turn, removes the burden of accountability from their operations. The sub-nationals do not operate under hard budget constraints and therefore have not made particularly strong efforts to, for example, recover costs of development through plot sales (SNHB) or keep contract cost overruns under tight control (SWSC). However, the project DO recognized that institutional strengthening is a long term process; the outcome of the project component dealing with this aspect is that Swaziland's central and local governments still require further efforts in this area but tangible progress has been made in the first phase of reforms.

The institutional reform sub-component is rated as Satisfactory.

On one level, the majority of planned outputs under the project were met. Staff in all IAs and the central

government (including the PCU) participated in on-going training activities, much of it short term skills upgrading, responding to particular project implementation needs as they arose. The training activities and institutional restructuring generally has resulted in measurably more efficient and effective sub-national agencies as shown by the performance indicators, although implementation performance over the life of the project was variable but satisfactory in the final year.

2. Rehabilitation and expansion of citywide roads component including the relocation of power-lines and development of solid waste facilities (US\$9.3 million SAR; US\$8.9 million actual). *Rating: Satisfactory*

As a result of the works under the project, traffic congestion has been eased in some parts of the cities, better access has been provided to the informal, lower income housing areas and erosion caused by poor drainage adjacent to the roads has been halted. In addition, comprehensive road inventories and initial maintenance programs/schedules were prepared and costed for both cities. The maintenance programs were supported by five contracts under which municipal plant and equipment was procured. The availability of vehicles and equipment significantly improved in the two Cities, thus allowing for periodic routine maintenance.

Under the component, a well designed solid waste site was constructed in Mbabane and the old, polluted site which was located close to a housing area was decommissioned. Collection and compacting equipment was procured and technical assistance provided to municipal staff to support the operating of the site. Solid waste collection efficiencies in both cities improved notably over the life of the project as a result. In Mbabane, where the new solid waste site was constructed, disposal of citywide waste nearly doubled, from 4,396 tons in 2000 (prior to the commissioning of the solid waste site) to 7,980 tons by 2005. Furthermore, of the total tonnage disposed of in 2004, 20 percent came from low income residential areas which historically had not been covered by collection services and a further 16 percent from City Council sweepers, responsible for cleanliness of the general public environment of the city.

3. Rehabilitation and expansion of water and sewerage services component (US\$19.1 million SAR; US\$39.3 million actual).
Overall Rating: Satisfactory.

The outcome of the project's *water sub-component is rated Satisfactory.*

The physical targets have been achieved. The project's output target was to supply 1,400 megaliters per annum (70% over the 1994 levels) of potable water in the two cities. By 1997, production had reached 12,864 megaliters and in the single month of March 2005 alone, production was 1,364 megaliters. Alongside the increased volumes of water, reliability of supplies also improved and is still undergoing further improvements as a result of pro-active unaccounted for water improvements. Finally, the overall quality of water delivered in the system at EOP has improved as a result of the investments made. Water turbidity within the system (after storage) measures an average 0.98NTU, within the target of <1NTU. The PH averages 6.5 to 7.2, within the allowed range of 6.5 to 8.5 and free chlorine is between 0.1 and 0.3 ppm, also within the limit of 0.3 ppm.

The combination of improved system operational efficiencies, reliability and quality of water, have been of significant social benefit to the residents of Mbabane and Manzini.

The outcome of the *sewerage sub-component is rated as Moderately Unsatisfactory*

Physically, the project has achieved the planned outcomes. For example, at the individual household level,

the outputs of increased number of sewerage connections has increased significantly – in 1993, there were 4,028 connections and by EOP, connections had increased to 6,721 in number, of which 300 are in upgraded informal settlement areas. Also, at the citywide level, the two new sewage treatment plants have been commissioned and operations have been handed over to SWSC in March and May 2005. Whereas in 1994, sewage treatment capacity was able to cope with less than 25% of demand, by March 2005 the new plants are able to meet current demand in both cities and have spare capacity for an estimated further 15-20 years.

However, in spite of this, the sewerage sub-component has been rated as Moderately Unsatisfactory because of (i) the enormous increase in cost of the two STPs from SAR to EOP which put tremendous strain on both the cash position and longer term financial viability of the SWSC; and (iii) the as yet untested ability by SWSC to operate the plants which are highly mechanized in design. Based on preliminary engineering design solutions and costs at the time, the SAR (1994) estimated the combined cost of the two STP contracts as US\$15.704 million (E59.594 million). By the time the plants were completed and all final payments made, their combined cost will be US\$30.8 million (E223.3 million (*civil works only*)) -- a 240% increase in costs as estimated at appraisal, even though the cost overruns and change orders during the course of the two large contracts were contained within 10% of the original E contract value as substantially reduced by an initial change order (VO1).

The significant increase in costs of the two STPs was the result of a number of factors, including:

- (i) Delays in finding large sites to accommodate the works in the face of strong community resistance (20% increase);
- (ii) In the face of ongoing community opposition to the works on their land, the Borrower took a politically based decision to change the treatment process at both sites from the low technology ponds and filters to technically sophisticated sedimentation tanks, filters and anaerobic sludge digesters and the outfalls were changed from gravity mains to pressure mains, with a pre-treatment works at the head of the sewer in each case (180% increase);
- (iii) The exchange rate at the time of bid opening (i.e. the rate applied in the contracts) was US\$1: E9.9133. However, by EOP, the local currency (*emalangeni*) had strengthened to a rate of US\$1: E6.16, thus compounding the costs of the two plants in US\$ terms by 38%, even though the E contract price was unchanged. As a result, the proportion of the loan to the overall cost of the two contracts was reduced. This resulted in GOS having to fund the proportionally increased remaining balance, which it agreed to do.

Although the final construction costs of the two plants considerably exceeded the funds available from the Loan, the Borrower explicitly decided to continue with construction and undertook to bridge the financial difference (see Annex 12). SWSC has developed and adopted a detailed Financial Action Plan to address its increased debt service responsibilities, and to date, it has met these commitments, including a 13% tariff increase when inflation was 3.7% in 2004 and subsequently a 6.5% increase when inflation was 4.1% in 2005. However, as at EOP, the cost-sharing burden of the investments had not yet been finally agreed between the central government and SWSC. Therefore, the long term servicing of the debt remains uncertain. Furthermore, ultimately, the plants were designed to a highly mechanized standard, not in keeping with existing operations of SWSC. Therefore, SWSC operations staff will require significant training and on-going mentoring to ensure that the plants are adequately operated and maintained. In light of these two risks, despite achieving its physical objectives, the sub-component has been rated *Moderately Unsatisfactory*.

4. Residential housing sites and on-site infrastructure component (US\$7.6 million SAR; US\$9.81 million actual)

Overall Rating: Moderately Unsatisfactory

The upgrading component was slow in implementation (only 50% of the plots had been serviced by EOP) but by the latter years of the project, the procedures for upgrading have become mainstreamed into the regular operations of the two cities, which is a significant achievement. Also, limited feedback from residents indicates that the upgrading has had a positive effect on their lives (availability of potable water, solid waste collection, high-mast tower lights for improved nighttime security, improved road and footpath access and formal security of tenure). Overall, the component has had noteworthy poverty impact by improving health, hygiene and general living conditions for target communities in the low income parts of the city.

However, the component has faced a number of difficulties which had not been resolved by EOP. Firstly, in the upgrading areas, no improved pit latrines have been constructed, due to an unwillingness to accept the low technology option by the implementing agency (SNHB) -- (*SNHB officials claim that the improved latrines have not been constructed because of community resistance to them, and to not increase plot costs any further and thus maintain affordability levels. However, de facto, Msunduzi residents already make use of unimproved latrines on their plots. The project offered to upgrade the latrines to make them structurally safer and to contain odors and fly nuisance*). Three years after the area upgrading contract was completed, only a pilot project has commenced to construct the first 25 toilets out of a total 1,704 needed. Secondly, plot sales have been very slow – by EOP, only 11% of plots serviced had been fully paid for and transferred. Thirdly, over and above the Bank's 'do no harm' principle regarding involuntary resettlement within the upgrading areas, the project also liberally recognized the succession rights in Swaziland -- providing for the allocation of plots to 'qualifying' residents including primary heads of households, secondary heads of households, adult offspring (irrespective of gender), and tenants. Whilst GOS has borne full responsibility for resettlement compensation payments, in the case of Msunduzi, payments finally made (*in fact, payments continue to be made in May 2005, even though the infrastructure construction contract was completed in June 2002*) were considerably more than the resettlement plan agreed between the Borrower and the Bank and almost double the infrastructure investments made. For these reasons, the precariousness of the long term financial sustainability of the component has undermined the physical gains made and so the component is rated a *Moderately Unsuccessful*.

4.3 Net Present Value/Economic rate of return:

As part of project appraisal, an economic analysis was carried out on the proposed project investments. The SAR stated that "the weighted average ERR was 27% for 55% of total project costs". However, the detailed calculations are not available in either the Bank or Borrower's files. Therefore, a comparable *ex post* economic analysis, following strictly the same approach as in the original appraisal, could not be undertaken. In its place, standard economic internal rate of return (EIRR) calculations were done on a cross section of investments (one from each of the different project components). The calculations made use of actual investment costs and real maintenance and income values.

The detailed assumptions made and analysis of the results, are presented in Annex 3. **In summary, all investments, other than the water and solid waste investments, had acceptable EIRRs. In the case of water supply and the solid waste site, substantial environmental and public health benefits have accrued although it was not possible to quantify them in the present analysis.**

4.4 Financial rate of return:

Not applicable.

4.5 Institutional development impact:

The Project's institutional development impact (IDI) was Substantial in some areas, Modest in others, and was Modest overall.

IDI was *Substantial at the central level*, where significant, far-reaching changes were achieved in the policy framework, both because of the nature of the changes and in terms of providing the foundations for long-term sustainability of sub-national operations. The policy dialogue and adoption of reforms that took place during the course of the project embraced international best-practices and far-reaching reforms of previously obdurate issues such as accessibility to land by women, more predictable financing of municipal investments including the payment by central government of property taxes to the cities, mainstreaming of environmental management and similar.

IDI also was *Substantial with respect to the implementing agencies' achievement of performance targets* (see Annexes 1 and 10). Internal efficiencies such as improved rates/debtors collection ratios and periods, availability of vehicles and equipment, reduction of unaccounted for water losses have all been achieved and sustained over the last three years of the project. The Project also was instrumental in improving financial management capacity in the IAs through the disciplines of cost recovery analysis, financial planning and timely, independent financial auditing. In some cases, required capacity was supplemented by technical assistance which the IAs favored for on-the-job training and skills transfer. In addition, all of the four main IAs have taken up many of the Bank procedures instilled under the project into their everyday systems, for example, procurement methods (*it is also interesting to note that in terms of the Loan agreement, the procurement was subject to the Bank's 1981 procurement for consultants Guidelines. However, all agencies voluntarily adjusted their procurement to match the Bank's more demanding Guidelines produced in 1995 and as subsequently revised*) and involuntary resettlement principles.

However, in key operating areas, IDI was Modest, particularly resource mobilization, where, despite improvements, the IAs on the whole remain under-resourced, in some cases not being able to fully cover operational costs of services (e.g. solid waste collection and management, road maintenance and water supplies). They also continue to be challenged to service long term debt associated with capital investments (for example, incurred on the upgrading areas) and remain dependent on periodic negotiations to raise supplementary revenues from the central government. To an extent this is due to the lack of depth of the resource base of the agencies but in instances too, it is due to a reluctance to take 'hard' political decisions, reinforced by the central government not insisting on hard budget constraints and in some instances, by political interventions from the central level.

Decentralization and the empowering of sub-national agencies is a long term process. Significant steps in the right direction have been achieved in Swaziland to date, but more remains to be done in the future.

5. Major Factors Affecting Implementation and Outcome

5.1 Factors outside the control of government or implementing agency:

- Swaziland is part of the Southern Africa Customs Union. As such, its economy is tied in to and strongly affected by the economy of the Union's largest partner, South Africa and subject to regional exchange rate instability (from E3.6: US\$1 at the start of the project, to E10: US\$1 in 2003, to E6.2: US\$1 at EOP) and, particularly in the early years, relatively high inflation (average of 8.7% from 1995 through 1998). The combined effects resulted in cost overruns on contracts already underway and increased local costs on contracts still to start, estimated to be a cumulative 60% by MTR. Unfortunately, too, the highest period of volatility in the US dollar was during the

time when the two sewage treatment plants, accounting for 49% of the project's total investments, were being constructed. It is calculated that the devaluation of the US dollar against the local currency between the time that the construction contracts were signed and completed, resulted in a 40% increase in the US dollar equivalent cost of the contracts for the Borrower (i.e. in the amount that would have been needed to be drawn down from the US dollar denominated Loan).

- Some of the decisions taken by the government and local agencies through the life of the project could not be implemented or were implemented very late, as a result of traditional considerations, including the on-going rejection by the communities of sewage treatment plant sites and ultimately, outright rejection of the use of maturation ponds which had to be substituted by extremely costly sludge digesters and filters. Also, the refusal by the residents for many years of Moneni, Manzini to participate in the formal government upgrading exercise. In consequence, contracts were delayed in commencing or during implementation, resulting in cost overruns and claims. Secondly, the coordination between components was not achieved, making it difficult for the agencies (SWSC in particular,) to meet some performance targets, in particular revenue streams that were linked to being able to increase customer bases as new areas were serviced.
- Procurement for contracts which commenced early on in the project was accomplished with relatively short lead times – the project operated under the 1981 Selection of Consultants *Guidelines* which were a step shorter than subsequently amended versions, and the Bank's Task Team Leader at the time was procurement proficient and so able to provide no objections on missions in the field. Subsequently, the government agreed to adopt the revised *Guidelines* (it was under no legal compunction to do so but wanted to benefit from the improved procedures) and subsequent TTLs were no longer procurement proficient. As a result, bid documents had to be sent to Washington for review and procurement decisions were sometimes the cause of delay. As technologies improved, the Borrower was able to submit documents electronically and this served to overcome some of the delays that had been previously experienced.

5.2 Factors generally subject to government control:

- The government chose not to make use of the special account under the project, preferring instead to forward finance expenditures directly and then claim reimbursement of eligible expenditures at a later date. The internal procedures for reimbursement were complex and slow and as a result, long delays were experienced and ultimately impacted on the Borrower's cash flow – at its worst, there was an internal bottling of eligible expenditures in an amount of US\$1.7 million over a 12 month period. However, the Borrower was able to improve on its internal procedures to reduce (but not eliminate) the delays and agreed to adopt the direct payments method (Bank direct to contractor) for the two remaining large contracts. As a result, the Loan was fully disbursed by project closing.
- At the start of the project, a set of Subsidiary Loan Agreements (SLAs) was signed between the central government and the four main implementing agencies, setting out the amounts, terms and conditions of Loan proceeds that would be passed on to the individual agencies as either grant or credit (see Annex 14). During the long life of the project, a number of changes occurred in the project which impacted in a number of ways on the IAs, for example, making it difficult for them to finalize five year financial plans, including debt service arrangements. Recognizing the changes that had occurred, the PCU proactively introduced *de facto* (and largely accurate) changes to the loan repayment schedules required of the individual agencies. However, until the SLAs are formally amended, the changes have no legal backing.

- The Borrower and IAs fully accepted the Bank’s involuntary resettlement guidelines and procedures and implemented them, even in upgrading areas being fully financed by the Borrower itself. The project audited financial statements and the Project Steering Committee, routinely monitor the compensation procedures and global amounts. However, over time, the total amount of compensation claims and payments greatly escalated in comparison with either the original resettlement plans submitted to the Bank for ‘no objection’ and with the total investment costs. (For example, in the case of Msunduza, final resettlement payments, including a significant 28% in valuers’ fees, were 70 times more than originally reviewed by the Bank and nearly double the infrastructure investments made. This very lenient approach to compensation not only unduly escalates the development costs of upgrading (and the financial burden to be borne by the government) but also sets a difficult precedent with regard to other areas that are to be upgraded in the future.

5.3 Factors generally subject to implementing agency control:

- Implementation performance varied during the life of the project. Slow implementation was reflected in the very slow rate of disbursement. For example, by March 2000 50% of the Loan should have been disbursed against an actual of only 27%. Due to the slow decision making procedures in some of the agencies, some contracts had to be dropped as they would not have been completed before project closing (e.g. the two additional roads contracts in Manzini) and some contracts have still not been undertaken even after project closing and with the Borrowers financial support (e.g. the Mobhodleni and Moneni upgrading packages). Ultimately, these IP issues did not negate the achievement of the Project’s DOs but will be a consideration in the design of future projects.
- As the IAs do not operate under hard budget constraints and are not being penalized for not servicing their loans under the project in accordance with agreed schedules, the rate of plot sales in the upgraded areas has been slow. The result is that the central government is bearing the costs and risks of bridge financing the investments for lengthy periods. In addition, plot sales prices are not indexed to inflation or borrowing rates and so households making late payments are effectively paying less for their plots than those that paid in full early on – an inequality that is not lost on the communities.
- Post-procurement contract management within some of the IAs was not sufficiently rigorous. As a result, in the case of Msunduza upgrading for example, a consolidation of change orders were issued without prior review by the Bank. This was not pedantry on the part of the Bank. On some of the contracts, agencies issued change orders without Bank prior review which subsequently were found to have been inaccurately costed and financially detrimental to the agency. The Borrower was notified of these and other deficiencies in the IAs and it contracted in engineering and financial controller TA to assist the IAs and performance once again improved in the last 18 months of the project, once again without compromising the final achievement of the DOs.

5.4 Costs and financing:

The detailed project costs by component and financing source, comparing the situation at appraisal and EOP, are shown in tables in Annex 2.

In summary, at appraisal (1994), the project cost was estimated at \$51.5 million equivalent. Of the total cost, \$29 million (56%) was to be financed by the IBRD loan, \$21.3 million (41%) by the Borrower and the sub-national implementing agencies and \$1.2 million (2%) by co-financiers. Shortly after EOP (August 2005), the total project cost had increased to \$63.4 million. Of the total cost, the Bank had financed

\$28.99 million (99.98% of the Loan) or 45% of the final total costs. Co-financiers had only financed \$0.6 million or 1% of the project and GOS and the sub-nationals had financed the remaining 54%, an amount of \$34.1 million equivalent.

As noted in sections above, some of the cost increases were due to delays in implementation, although ultimately, the costs of the delays were offset by the overall 58% devaluation of the local currency from the start to the end of the project. The two components that exceeded the appraisal estimates, and were responsible for the increase in the total project cost, were the residential upgrading component and the sewage sub-component of the water and sewerage rehabilitation and expansion component.

In the case of the residential upgrading, there were two main reasons behind the increase in costs. Firstly, the compensation claims paid by the Borrower at EOP in only one of the five upgrading areas (Msunduzi) amounted to \$3.8 million, double the SAR estimate for all five areas. Although it is the Borrower's discretion to pay more than the policy calls for if it wishes to do so, ultimately, this made the cost of upgrading economically non-viable from the public authorities' point of view (see the results of the EIRR for the component) and sets an expensive precedent to follow in subsequent upgrading attempts.

The second cause of the increase in costs of the upgrading component was due to the introduction of a higher level of services to be provided than originally planned, based on a combination of engineering considerations and the expressed concerns of some beneficiaries, although no formal *ex post* beneficiary survey has been carried out in Msunduzi and therefore it is not known if they are justifiable or not. The resultant plot sales prices will have to be doubled which will negatively impact on the rate of sales, unless the central government agrees to provide a form of subsidy to the upgraded area – which it is unlikely to do.

By far the largest increase in cost over the project appraisal estimates was in the sewerage sub-component which, as has been shown in the sections above, came about as a result of changed environmental standards after the project was negotiated, coupled with strong community resistance to the lower technology anaerobic ponds which were perceived to be unsanitary and odorous. In order to accommodate this community resistance and to persuade local traditional leaders to allocate land for the construction of the plants, SWSC was under pressure to design the plants to a much higher and more costly technical standard, resulting in an increase of \$3.5 million. A further cause of the cost increase in US dollar terms was the volatility of the dollar during the time of the STPs contracts resulting in an effective increase of approximately \$6.2 million against the Loan.

Given the large increase in costs and the financial impact this would have on the SWSC's financial position, the Bank had recommended to the Borrower at the time that the bids were received, that GOS only proceed with one of the two plants and defer construction of the second plant to a later date when the debt on the first plant had been repaid. However, taking into account political considerations of proceeding in one city and not the other, the recommendation was rejected and GOS agreed to finance the shortfall between the final costs and the amount available under the loan.

6. Sustainability

6.1 Rationale for sustainability rating:

The rating for Sustainability is Likely.

The sustainability rating is based on an assessment of the probability that the achievements generated by the project can be maintained.

The Borrower has undertaken and adopted a number of policy studies and reforms through the project. Cabinet approval has been given to issues such as the payment by central government of property taxes to the local governments, the introduction of the first phase of a predictable intergovernmental fiscal transfer system and His Majesty's introduction of the use of 99-year leaseholds over SNL in areas outside of the project towns. The main IAs are making use of environmental comprehensive mitigation plans, more rigorous and transparent procurement methods and accountable financial reporting. These and other adopted reforms bode well for the institutional gains made under the project.

The second consideration is whether community resistance to working with formally constituted sub-national agencies will not serve to undermine on-going attempts by the Borrower to continue to incorporate peri-urban areas into municipal boundaries and provide services. There is some likelihood that there will be a 'trickle down' effect from the improved areas and that over time, more and more residents will request (and be willing to pay for) the visible benefits of upgrading (in particular, improved access, potable water and security lighting). Upgrading is now accepted as a legitimate function of city councils and part of their on-going operations with funding channeled through central government loans. Therefore, in spite of the long time it has taken to complete only half of the upgrading component, it is likely that the principles and procedures guiding upgrading will continue to be undertaken.

Finally, a consideration is whether the responsible agencies have adequate human and financial resources available and dedicated towards operations and maintenance of the physical investments made. As the majority of physical investments (save for the two STPs and associated works) were completed two years before project closing, it is possible to realistically assess this likelihood. The conclusion is not equivocal. The agencies are all explicitly maintaining their investments through annual budgetary provision but generally, maintenance does not receive the full support that is required. This is not to say that the project investments are being operated or maintained at levels lower than those found on other facilities built outside the project. What it points to, rather, is an on-going lack of funding at sub-national level although significant improvements were registered under the project. To the extent that agencies are able to raise tariffs to cover costs, they are attempting to do so (notably SWSC), but long term, predictable and adequate funding is not yet assured. On balance therefore, the sustainability of the investments is likely but not without some risk.

6.2 Transition arrangement to regular operations:

Ownership of the project by the central government and the IAs has been strong – one clear indication of this is that they have borne 54% of the total project costs. The closing of the IBRD Loan has not greatly affected ongoing activities of the project. The upgrading component is ongoing with GOS fully financing investments as loans to the IAs and defects liability period monitoring of the STPs is continuing.

Reforms and procedures introduced through the project have been mainstreamed into the operations of the IAs and are coordinated through central government. These include: annual independent auditing of financial accounts within six months of the end of the financial year; the use of environmental comprehensive mitigation plans; the quarterly reporting on many of the key performance indicators to the PSC (which itself continues to meet regularly); the introduction of 99-year leasehold on SNL outside of the project areas; the introduction in FY05/06 of payments to local governments for recurrent expenditures and the Capital Development Fund, in keeping with the adopted intergovernmental fiscal transfer system.

In addition, although the Government budget for 2005 is constrained, there has been a commitment to honor the remaining local funding (mostly for landscaping and retention monies) on the STPs; the upgrading component in Nkwadini Zone 2 is going out to bid; and the PCU has had its term of office

extended by 12 months to specifically assist the IAs with on-going implementation.

The one outstanding issue that requires resolution for longer term transition to regular operations is for the government to come to closure with the IAs on amendments to the SLAs, in particular regarding the size and terms of final loan amounts to the IAs. This is necessary for the IAs to plan and manage their cash flows and to adjust tariffs and user fees to cover debt servicing requirements.

7. Bank and Borrower Performance

Bank

7.1 Lending:

Moderately Satisfactory.

The Bank team worked closely with the Government and other support agencies (notably USAID and ODA) in undertaking a number of pre-project policy studies and consultative workshops. Thereafter, it offered timely and regular support during the project preparation phase. However, the project objectives, even though ultimately achieved, were ambitious and project design complex. For these reasons, the Bank's Lending performance is rated as *Moderately (rather than fully) Satisfactory*.

7.2 Supervision:

Satisfactory.

Supervision was undertaken regularly throughout the life of the project, typically with key engineering and financial analyst support, supplemented with gender specialist, environmental specialist and local government specialist skills. When particular issues arose, the Bank's team was proactive in engaging the Government on the need for improvements or changes (e.g. the detailed recommendations in the MTR; reimbursement applications for eligible expenditures; introduction of direct payments for the STP contracts; water tariff increases; shifting responsibility for upgrading to the City Councils; and advice on the costs and financial impact of the redesigned STPs).

A good working relationship between Bank teams and the Government and its IAs was established from early on in the project. This joint, open approach to supervision and issues arising was rewarded by the slow but steady final achievements of the project. In assessing the need for the first two year and then a further one year extension to the project closing date, Bank management questioned whether it would not be prudent to close the project and reduce the financing burden of the two STPs on the central government. However, the Bank showed itself responsive to and finally was persuaded by the Borrower's justifications that it would in any event construct both plants.

7.3 Overall Bank performance:

The Bank's overall performance is assessed as Satisfactory.

Borrower

7.4 Preparation:

Satisfactory.

The Borrower's performance in Lending is assessed as Satisfactory. There was close cooperation at the time of preparation between the Government and the Bank. The Government made use of a PPF facility to undertake very detailed design of each of the components of the project. The IAs also were involved in preparation. Although some key decisions were not taken in a timely way initially, thus delaying project effectiveness, the long list of complex conditions required for effectiveness, finally were met by the

Borrower.

7.5 Government implementation performance:

The Government's implementation performance is assessed as Satisfactory overall.

Throughout the project, the Government consistently met the conditions of the loan and availability of counterpart funds was never a matter of concern during supervision. When particular problems arose on the project and brought to the attention of the Borrower, if it did not already know of the problems, it listened openly at the highest level and took proactive steps as needed. This was seen in a number of instances, for example, in reassigning the responsibility for the upgrading areas to the City Councils; in introducing the use of direct payments method on the STP contracts and in the regularly held and well attended meetings of the PSC.

7.6 Implementing Agency:

The performance of the IAs on the whole was Satisfactory.

Although Implementation Performance was problematic at certain points in the project, ultimately performance issues were overcome. The IAs all dedicated adequate human and financial resources to ensuring that their components were carried out, they met key loan conditions (for example, timely submission of financial audits), and have taken on board Bank procurement procedures, involuntary resettlement and community liaison practices and environmental mitigation systems.

7.7 Overall Borrower performance:

Overall Borrower performance is assessed as Satisfactory.

8. Lessons Learned

- The project faced a number of **implementation challenges** as a result of the low institutional base at the start of the project and the complexity of project design. **Delays between design and eventual project effectiveness** resulted in a number of problems. In the first place, costs inevitably escalated. For example, the costs of upgrading Msunduzi escalated by 100% between 1994, when the original estimates were made, and 1999 when construction finally commenced. The delays also acted as a dampener on the enthusiasm of project participants, especially residents in the upgrading areas and created room for dissension and antipathy, thus undermining the earlier commitments that had been given by communities in the early days of project design. For the future, under similar country settings, there should be greater emphasis on setting realistic, achievable objectives with parsimonious inclusion of project activities from the outset.

In addition, in countries where the Bank has limited operational portfolios, local agencies regard many of the Bank's procedures as arcane. Special attention needs to be given to the inclusion of training in Bank operating guidelines (e.g. in procurement, resettlement, financial management, etc.)

- In countries such as Swaziland (IBRD status and part of the Southern African Common Currency Union in which South Africa effectively determines monetary policy for all members) **loans should be denominated in South African Rands** (legal tender in Swaziland) rather than USD or €. The volatility of the USD during the course of the project, particularly when the two biggest contracts were being undertaken, was expensive to the Borrower and extremely cumbersome for accounting procedures. **Partly in response to this issue, the Bank will now lend in SAR, directly**

responding to the longstanding requests by both the governments of Swaziland and Namibia, and Bank Treasury officials recently visited the kingdom to confirm this innovation.

- During the supervision of projects, project progress needs to be assessed against a number of variables (ideally through the use of verifiable, cross-cutting key performance indicators) rather than using the rate of Loan disbursement as the sole indicator. Disbursement levels on the current project ran at well below projected percentages for a number of years because the bulk of the Loan was tied to two large contracts. However, this obscured the fact that the Government and IAs themselves were self-financing a large range of activities on the ground, not all of which were captured through the Loan disbursement system data.
- In Swaziland, as in other countries in Africa, under the existing traditional *khonta* (land allocation) system, most households already enjoy a well recognized security of tenure, frequently are able to provide their own hand dug wells or purchase water from a neighbor, and build their own pit latrine – there is **little perceived incentive to participate in formal upgrading programs**. In light of this, the lesson to emerge from the project was that community based development type components such as the residential housing upgrading component, should set modest, achievable objectives and be less prescriptive and more open to hearing from communities themselves, what their development priorities consist of. Development expenditures should be modest, concentrating on those services which are valued highly by beneficiaries themselves, and linking payments, where possible, to the direct use of services -- for example, pre-paid water meters to reticulate potable water throughout the neighborhoods, solid waste collection points, street/tower lighting to improve neighborhood nighttime security and one or two main access streets.
- Finally, the complex design of the project reflected the complex urban development challenges facing the Swazis in the early 90s. Due to rapid investment in the Matsapha Industrial near Manzini (about 30,000 formal jobs were created in the 80s as investors left South Africa) GOS was wholly unprepared to cope with tens of thousands of immigrants seeking jobs, housing and services. The Ministry of Housing and Urban Development was just being established as SUDP design proceeded; the two town councils had low capacity and were subject to central interference in appointment of councilors and officials, setting of rates and tariffs, etc; SWSC was still a Board at the time, with low capacity, poor systems and dominated by central officials and politicians. There was no Urban Policy framework at all, and relevant legislation was outdated, scattered across various sectors, and entirely inadequate to effectively regulate the rapid urbanization process. Intergovernmental fiscal systems were entirely ad hoc and critical infrastructure was crumbling, with major public health risks particularly from the vastly overloaded sewer treatment and water supply systems and solid waste management sites and equipment. Informal settlement on SNL was skyrocketing, both inside the Council jurisdictions and in adjoining peri-urban areas under traditional administration. GOS had never dealt with challenges on this scale before, and so it was not familiar with either large scale (in the local context SUDP was very large) operations like SUDP nor with the planning and implementation practices and systems required to mobilize external financing to meet such a large scale challenge. After a decade of sustained effort, the multiple objectives of SUDP have been satisfactorily achieved. **Would these objectives—all of which were and are critically interlinked—have been achieved more efficiently through a series of more focused operations?** It would have been possible to have started with a project that focused primarily on policy, legislative and institutional reforms, but these are precisely the aspects of SUDP which are rated highly satisfactory, and it is arguable that without the incentive of available capital financing through SUDP these reforms might not have been achieved as

effectively. Urban projects are inherently complex, and a review of Bank experience over the last 30 years will reveal that **the first, and often the second, urban project(s) suffer delays and difficulties in virtually all countries in which prior experience is limited.** This being the case, a key lesson (re)learned in SUDP may be that the Bank and the Borrower should expect difficulties in first urban projects. Both parties persevered in SUDP, and the proposed follow-on project—the Swaziland Local Government Project (SLGP)—is being designed in a much more focused, demand driven, rules of access manner based on experience gained in numerous countries in the region since SUDP’s design more than a decade ago. However, the much less complex design of SLGP is possible only because of the achievements made through SUDP. Hence, it is arguable that SUDP again demonstrates the key lesson that **the first urban project in a country will have to deal with a difficult complex of objectives, delays are to be expected, and high investments in implementation may be recouped through less supervision intensive successor projects.**

9. Partner Comments

(a) Borrower/implementing agency:

See Annex 8

(b) Cofinanciers:

(c) Other partners (NGOs/private sector):

10. Additional Information

See Annexes 9 - 15

Annex 1. Key Performance Indicators/Log Frame Matrix

Outcome/Impact Indicators

Indicator/Matrix	Baseline (SAR)	Projected in last PSR	Actual/Latest Estimate (May 31,2005)	Target as per SLA
Outcome/Impact Indicators:				
DEVELOPMENT OBJECTIVE: To provide a basis for sustainable urban development (institutional reform)				
SWSC				
1. Improve internal efficiency				
Employees/1000 connections	53	18	18	17
O&M ratio (5)	33		n/a	33
Unaccounted for water (%)	47	28	27	28
Defective meters (% of total)	--	22.2	22.15*	--
2. Improve financial performance				
Net income (E000)	3,767	1,459	(2,753)	--
Debt service coverage (%)	n/a	n/a	n/a	n/a
Bad debt/sales ratio (%)	59	15	15	35
Average collection period (days)	185	136	139**	150
Manzini CC				
1. Improve internal efficiency			78.8	75
Equipment availability(%)	--			
Vehicle availability(%)	--		73.6	75
Refuse collected/swd employees(cu.m)	3.5		n/a	n/a
Length of roads maintained per maintenance employee (kms)	--	n/a	n/a	n/a
2. Improve financial performance				
Rates collected***	65	93.2	95.8	60
Increase in rates payable (%)	--	7.3	7.3	9
Arrears collected (%)	--		n/a	--
Mbabane CC				
1. Improve internal efficiency		85		
Equipment availability(%)	--		85	75
Vehicle availability(%)	--	90	90	75
Refuse collected/swd employees(cu.m)	--		n/a	--
Length of roads maintained per maintenance employee (kms)	3.5	2.5	2.5km	--
2. Improve financial performance		81		60
Rates collected (%)	65		81	
Increase in rates payable (%)	--	8	7.3	9
Arrears collected (%)	--		18.5	

* No charge: planned program of implementing the unaccounted for water study recommendations incrementally funded.

** 27 percent of gross debtors are central Government debtors of which E10 million are over 90 days.

*** Includes both arrears and current as aging debtors system throws payments to the oldest balance.

Output Indicators

Indicator/Matrix	Baseline (SAR)	Projected in last PSR	Actual/Latest Estimate (May 31,2005)	Target as per SLA
Output Indicators:				
DEVELOPMENT OBJECTIVE: To address critical infrastructure needs				
1. Expand water and sewerage network				
Metered water connections	16,466	26,593	28,007	--
Sewerage connections	4,028	6,752	6,721	--
2. Improve quality of road network - Length of road				
	9.9km in total			
Mbabane - km/employee			165.6km	
Mbabane - E in annual budget for road maintenance			E4,520,000	
Manzini - km/employee	13km in total			
Manzini - E in annual budget for road maintenance				
3. Improve solid waste collection				
	92			
Mbabane - Refuse collected (tons/month)		600	700	--
Manzini - Refuse collected (tons/month)	46		420	--
Mbabane - Total area covered (% population)			80	--
Manzini - Total area covered (% population)				
4. Upgrading informal urban housing sites				
Develop low income housing markets:				
No. of serviced plots delivered -				
	Msunduzi	0	1,794	5,000
	Nkwalini Zone 4	0	808	
	Nkwalini Zone 2	0	0	
	Mahwalala Zone 6	0	0*	
	Moneni	0	0	
	Mhobodleni	0	0	
No. of title/leases issued -				
	Msunduzi		217	
	Nkwalini Zone 4			291
	Nkwalini Zone 2			
	Mahwalala Zone 6			
No. of leases on former SNL awaiting formal registration (fully				
	Msunduzi		0	233
	Nkwalini Zone 4		0	
	Nkwalini Zone 2		0	
	Mahwalala Zone 6		0	
No. of mortgage bonds registered -				
	Msunduzi		5	
	Nkwalini Zone 4			7
	Nkwalini Zone 2			
	Mahwalala Zone 6			

* Involving 1,023 resettlement cases

Annex 2. Project Costs and Financing

Project Cost by Component (in US\$ million equivalent)

Component	Appraisal Estimate	Actual/Latest Estimate	%age of Appraisal
	US\$	US\$	
Policy & Institutional Reform	4,200,000	3,939,144	93.8
Roads and Infrastructure	9,300,000	8,902,343	95.7
Water and Sewerage	19,100,000	39,279,864	205.7
Residential Upgrading	7,600,000	9,808,688	129.1
Project preparation	2,500,000	0	0.0
PPF Refinancing	1,500,000	1,500,000	100.0
<i>Total Baseline</i>	<i>44,200,000</i>	<i>63,430,039</i>	<i>143.5</i>
Physical Contingency	3,500,000	0	
Price Contingency	3,800,000	0	
Total Project Cost	51,500,000	63,430,039	123.2
Total Bank Financing	29,000,000	28,955,000	99.8

Note: The costs of the three works components all include the costs of the civil works, design review and supervision fees, compensation for involuntary resettlement. The roads component also includes the cost of equipment purchase.

Project Costs by Procurement Arrangements (Appraisal Estimate) (US\$ million equivalent)

Expenditure Category	Procurement Method ¹			N.B.F.	Total Cost
	ICB	NCB	Other ²		
1. Works	32.43 (20.93)	4.11 (1.17)	0.00 (0.00)	2.29 (0.00)	38.83 (22.10)
2. Goods	1.82 (1.82)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	1.82 (1.82)
3. Services	0.00 (0.00)	0.00 (0.00)	9.44 (5.06)	0.00 (0.00)	9.44 (5.06)
Consultants' Services & Training					
4. Miscellaneous	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	1.41 (0.00)	1.41 (0.00)
Land Compensation					
5. Miscellaneous	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
6. Miscellaneous	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Total	34.25 (22.75)	4.11 (1.17)	9.44 (5.06)	3.70 (0.00)	51.50 (28.98)

Project Costs by Procurement Arrangements (Actual/Latest Estimate) (US\$ million equivalent)

Expenditure Category	Procurement Method ¹			N.B.F.	Total Cost
	ICB	NCB	Other ²		
1. Works	26.04 (19.11)	0.94 (0.68)	0.00 (0.00)	0.00 (0.00)	26.98 (19.80)
2. Goods	1.23 (3.55)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	1.23 (3.55)
3. Services Consultants' Services & Training	0.00 (0.00)	0.00 (0.00)	5.44 (3.81)	0.00 (0.00)	5.44 (3.81)
4. Miscellaneous Land Compensation	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
5. Miscellaneous	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
6. Miscellaneous	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Total	27.28 (22.66)	0.94 (0.68)	5.44 (3.81)	0.00 (0.00)	33.65 (27.15)

^{1/} Figures in parenthesis are the amounts to be financed by the Bank Loan. All costs include contingencies.

^{2/} Includes civil works and goods to be procured through national shopping, consulting services, services of contracted staff of the project management office, training, technical assistance services, and incremental operating costs related to (i) managing the project, and (ii) re-lending project funds to local government units.

Component	Appraisal Estimate (US\$m)				Actual /Latest Estimate (US\$m)				%age of Appraisal			
	Bank	GOS/IAS	Co-Finance	Total	Bank	GOS/IAS	Co-Finance	Total	Bank	GOS/IAS	Co-Finance	Total
Policy & Institutional Reform	1.792	1.212	1.196	4.200	3.853	0.241	0.620	3.900	215.0	20	51.8	
Roads and Infrastructure	5.500	3.800	0.000	9.300	3.546	5.354	0.000	8.900	64.5	140.9		
Water and Sewerage	17.100	2.000	0.000	19.100	18.922	20.378	0.000	39.300	110.7	1,018.9		
Residential Upgrading	2.000	5.600	0.000	7.600	0.873	8.927	0.000	9.800	43.7	159.4		
Project preparation/ Implementation	1.108	1.392	0.000	2.500	0.000	2.12	0.000	0.000	0.0	152		
PPF Refinancing	1.500	0.000	0.000	1.500	1.500	0.000	0.000	1.500	100.0	126		
Total Baseline	29.000	14.004	1.196	44.200	28.694	34.086	0.620	63.400	98.9	243.4	51.8	
Physical Contingency	0.000	0.000	0.000	3.500	0.000	0.000	0.000	0.000				
Price Contingency	0.000	0.000	0.000	3.800	0.000	0.000	0.000	0.000				
Total Project Cost	29.000	21.300	1.196	51.500	28.694	34.086	0.620	63.400	98.9	160.0	51.8	
Total Bank Financing	29.000			0.000				28.950				

SAR Financing Plan	US\$m	%	Actual Financing	US\$m	%
IBRD	29	56.3	IBRD	28.694	45.3
GOS/IAs	21.3	41.4	GOS/IAs	34.086	53.8

Annex 3. Economic Costs and Benefits

(This annex draws on the economic appraisal carried out by The World Bank in 2002; see Milne (2002) in Annex 7).

As part of project appraisal, economic analysis was carried out on the proposed project investments. The SAR stated that “the weighted average ERR was 27% for 55% of total project costs”. However, the detailed calculations (in particular, the annexes containing assumptions and underlying methods) are not available in either the Bank or Borrower’s files. Therefore, a comparable *ex post* economic analysis, following strictly the same approach as in the original appraisal, could not be undertaken. In its place, a cross section of investments made within each of the different project components have been analysed and these results then compared to the earlier, broad appraisal summaries. In addition to attempting to provide a cross section of investments made, those investments completed earliest have been selected, so as to use actual completed investment costs and real maintenance and income values.

The following investments were analysed:

1. Package 2 – Corporation Road, Mbabane;
2. Package 3 – D98 Road, Manzini;
3. Packages 6, 7, 20 and 26 – Water supply, Mbabane (Manzini’s water supply system benefited less from project investments because it was less run down than that of Mbabane at the start of the project);
4. Package 11 – Solid Waste site, Mbabane (the only solid waste facility developed under the project);
5. Packages 13 and 21 – Msunduzi residential upgrading, Mbabane (the first completed upgrading area and the only one in which any plots have been sold to date);
6. Package 18A – Sewage treatment plant and associated works, Mbabane (commissioned March 31, 2005).

The calculations derive the economic internal rate of return (EIRR) for the selected project investments using standard cost-benefit analysis. The analysis period for each investment was determined in consultation with local experts and set at 20 years for each of the roads, 15 years for the solid waste landfill site and 25 years for the other investments after the main investments were completed. Costs included all investment and incremental recurrent costs, net of applicable taxes and duty. Investment costs were as borne by both the IBRD loan and partner (GOS or IAs) funding and include the civil works, design review and supervision fees and resettlement payments (including valuers fees) where applicable (*different from the financing of the investments, under which the central government bore the costs of supervision and compensation as grants*). In all cases, the costs were obtained from audited accounts and the project’s draft financial statements for YR2004/05. Future recurrent costs were based on actuals or estimates from the implementing agencies, augmented where necessary by advice from independent local experts. Benefits were determined in discussion with implementing agencies, local experts, and in some cases cross-checked against external research and working papers from similar projects in other countries. All costs and benefits were converted from local currency to US\$ values using official average annual exchange rates from the Central Bank of Swaziland. In the original appraisals (SAR), project costs and benefits were converted to constant values (net of inflation), and an opportunity cost of capital of 10 percent applied. The same approach has been followed in the present calculations. The country’s floating exchange rate (tied by monetary policy to the South African Rand) and relatively free labour market means that shadow

pricing is not required (a similar assumption made in the SAR appraisals).

Investment costs for each of the packages analysed are shown in the table below:

Table 1: Annual Investment Costs Per Package (US\$ million)

Package	1997	1998	1999	2000	2001	2002	2003	2004	2005	Total
2	0	0	0	173,364	116,803	0	0	0	0	290,167
3	0	17,230	40,123	612,874	267,372	0	0	0	0	937,599
6, 7, 20, 26	509,852	846,202	0	994,110	1,294,609	580,262	88,902	3,389	0	4,317,326
11	1,549,989	98,705	337,917	154,133	0	0	0	0	30,213	2,170,957
13, 21	0	22,575	59,401	356,223	1,365,534	977,392	783,901	632,409	466,885	4,664,320
18A	0	0	0	0	0	301,191	2,063,094	8,241,435	6,069,760	16,675,480

The calculated EIRR for each of the investments are shown in the table below:

Table 2: EIRR of Cross Section of Investments

PACKAGE	EIRR %
2	9.7
3	7.7
6,7,20,26	1.5
11 (no carbon)	--
11 (with carbon benefits)	--
13 (Plot sales only)	--
13 (Incremental rents only)	1.4
13 (Increased rates only)	--
13 (All benefits)	8.8
18A	7.0

Roads in Mbabane and Manzini (US\$ 1.23 million investment costs)

Assumptions

The two roads analyzed originally were gravel feeder systems in need of major upgrading. Corporation Road in Mbabane leads towards Msunduzi and D98 in Manzini leads to the main highway. Without the project, the poor condition of the roads and drainage would have resulted in continued high levels of dust in the dry season (affecting roadside residents and businesses), extensive on-site and off-site erosion during the rainy season, and higher vehicle operating and maintenance costs. Based on discussions with road engineers in both Mbabane City Council and the Department of Works in the Government of Swaziland, gravel road recurrent costs would be approximately \$1,200/km for routine roadside maintenance and periodic light blading with a grader. In addition, heavy grading would occur every five years, costing \$7,000/km.

Measured benefits with the project are lower vehicle operating and maintenance costs from the smoother road surface, and reduced road maintenance costs. Tarring the roads and improving drainage systems would also eliminate the dust problem, and reduce soil erosion during the rainy season. These were not included in the EIRR calculations since deriving monetary values would require detailed surveys on residents' willingness to pay to obtain these benefits, or in the case of dust, estimating impacts on human

health.

Vehicle operating costs were derived from the Automobile Association of South Africa using its cost estimation model for light and heavy vehicles (*light vehicles are cars, vans (such as combi-van taxis) and pick-up trucks. Heavy vehicles include small lorries, buses and heavy good vehicles*). Based on discussions with civil engineers, vehicle operating costs on flat, reasonably maintained gravel roads will be 15 to 25 percent higher than on tarred surfaces. As gravel road grade increases and surface quality becomes very poor, vehicle operating costs can up to 50 percent higher than on tarred surfaces. A figure of 25 percent is used in this report for D98 in Manzini and 40 percent for the much steeper Corporation Road in Mbabane. For light vehicles, normal operating costs/km on tarred roads is \$0.17/km. For heavy diesel vehicles, normal operating costs on tarred roads is \$0.29/km.

Traffic counts were not available for the Corporation Road in Mbabane; however government highway technicians provided traffic counts for a similar road in the city, for the period 1991 to 1999. Based on these traffic counts from 1990 to 1999, the mean distribution of traffic on Corporation Road was an estimated 88% light vehicles and 12% heavy vehicles. Using a simple log function growth model (*traffic counts on this road exhibited wide fluctuations, making a logarithmic function a better fit than a simple linear model*), average light traffic volume was predicted to increase from 1,327 vehicles per day in 2000 to 2,009 vehicles per day in 2021. With heavy vehicles, traffic growth is fairly stable, increasing from 96 vehicles per day in 2000 to 119 in 2021.

With Road D98 in Manzini, actual traffic counts were available for 1990 through 1999. The mean traffic distribution was 78 percent light and 22 percent heavy vehicles. Based on growth rates through a simple log model, heavy vehicle traffic was predicted to increase from 137 vehicles per day in 2000 to 188 in 2017, or approximately 2% per annum. Local officials felt that an average rate of 7-10% would be more realistic to reflect increased heavy traffic flow after rehabilitation. An average rate of 8% is used in this analysis. With light vehicle traffic, linear and log models predicted a decline in traffic volume, which was not felt to be realistic. Local traffic experts suggested using the average annual increase from 1990 to 1999 of 12 percent for light vehicle traffic with the new road. Traffic flows each day are assumed to remain constant throughout the year.

Routine roadside maintenance for clearing drainage, servicing guardrails and cutting grass is an estimated US\$125/km. Light rehabilitation of the tarred surface (minor resealing and pothole repair) is required every 7 years at \$6,500/km. A 20 year analysis period is used, beginning in the year after investments were completed and a total 20 year period of recurrent costs before the tarred roads would require major reconstruction.

Internal Rate of Return

The calculated EIRR is 9.7% for Corporation Road, Mbabane and 7.7% for Road D98, Manzini. The figures are conservative, for two reasons. Firstly, the benefit of saved time from faster travelling speeds with people using the tarred roads was not accounted for. Secondly, the environmental impact costs of the older gravel roads (dust, erosion, siltation of water courses) were not included in the analysis. Corporation Road provides an adequate rate of return without including environmental benefits; if environmental benefits of are included, the EIRR increases above 10%. The annual level of environmental benefits needed to bring the EIRR for D98 road to 10 percent is approximately US\$200,000.

Discussion

The 1994 SAR calculated four of the five roads identified for project investments would yield an EIRR above 10 percent. One road (D98 in Manzini) had an EIRR of >60 percent. While the 1994 analysis and

the current calculations used the same generic benefits (savings on road maintenance costs and reduced vehicle operating costs), the exact assumptions and methods underlying the 1994 work cannot be determined, for example, assumptions about traffic growth rates, operating costs/km, etc.

A review of Bank road investment projects in other countries suggest rates of returns ranging from less than 10% for improvements of roads serving low income areas in small towns in Kenya (not unlike the Swaziland situation), approximately 17% for roads requiring major rehabilitation in Madagascar, and 8% for low-volume roads in Guatemala. The rates of return for the roads assessed in Swaziland are comparable to the rates for specific roads in Kenya and Guatemala.

Residential Housing Upgrading, Msunduzi, Mbabane (US\$4.664 million investment costs)

Assumptions

Without the project, the informal settlement would continue to grow and lack adequate urban services such as roads, solid waste management and potable water. Existing residents did not have secure property rights and could not use their plots or homes as collateral with financial institutions to raise capital or, probably more importantly in the Swaziland context, sell them on the formal local property market. Crime, poor sanitary conditions, and environmental degradation would continue. With the project, the area was provided with upgraded roads that reduced soil erosion, footpaths, clean water supply, water points and washing areas, sanitation and sullage treatment in some areas, refuse collection points, tower lighting, and sports fields in open areas. Residents have been given the opportunity to purchase their plots under secure title through 99-year leaseholds. Also, for those residents whose existing properties were impacted by the upgrading (for example, a road cutting across a plot corner), compensation was negotiated and paid.

The analysis assumes a 25-year period for recurrent costs after the project investments were completed. Total investment costs from 1999 to March 2005 were US\$4.664 million. Recurrent costs were difficult to confirm. The Council took over maintenance of the area in 2004 and is collecting rates, albeit initially from the central government. In cases where properties have been transferred, the respective owners are billed for property rates and are responsible for payment. The City's maintenance inputs in the area have been calculated as a portion of a larger maintenance budget and based on actuals in 2005.

The project resulted in a formerly informal settlement with few services being upgraded into a surveyed and serviced residential zone of 1,794 plots. The average plot size is 540 m². Plots are sold to residents for a term of 99-years at an average price (in 2005) of US\$1,125/plot or US\$2.07/m². As at May 2005, 291 plots had been paid for in full and transferred and 708 had paid a mixture of partial costs and commitment deposits. A total of E4,284,990 had been paid for the plot costs to date. It is likely that some 260 of the plots will never be sold thus bringing the total number down to 1,534. It is assumed that all 1,534 will be sold by the end of 2007 (which may require SNHB to sell some of the plots on public auction, a recommendation it has resisted to date).

The level of rates currently collected from the central government equates to the total rates that would be charged to 100% of individual plot holders. The calculations assume that once the responsibility for rates payments is passed to individual holders, the collection rate will be 80%, based on Mbabane City Council's past four years average collection rate. The plots sales prices and rates collection are benefits that accrue to the public authorities.

Another significant, quantifiable benefit from the upgrading is the increase in property values as the plots are surveyed, transferred to individuals and become eligible for private sale on the local real estate market.

However, due to the housing shortage in Swaziland urban areas, there is not a strong buying and selling housing market. Rental values rather than sales prices provide a better proxy of the increase in property values as the rental market was active both before and after the project. Prior to the project, the rental market in Msunduzi was very active, with a vacancy rate of only 3%. Rental values reflected the services provided by the landlord. Prior to the project investments (1998) the average rent for a home on an unserviced plot was approximately US\$55 per month. Local real estate agents estimate that after the project (i.e. the same house on serviced land), the average rental rate increased to the equivalent of US\$84 per month. Not all homes will be rented, but the imputed rental value provides a reasonable measure of the incremental benefits to resident plot holders.

The calculations compare total investment and recurrent costs with each benefit separately income from plot sales, imputed rental increments and rates/property taxes) to illustrate how each contributes to the EIRR.

Economic Internal Rate of Return

The table below summarises the returns, depending on the benefits selected:

Table 3. Economic Returns for Msunduzi using Alternative Benefit Flows

BENEFIT	EIRR %
Plot sales only	--
Incremental rents only	1.4
Increased rates only	--
All benefits	8.8

Discussion

The 1994 SAR analysis used the estimated change in property values as the prime benefit of the upgrading. The SAR forecast the EIRR as 70%. Using this approach provided massive capital gains (which is a real and tangible benefit) and hence the extremely high EIRR. Had there been a legal and active property market before the project, this approach would have been suitable. However, as discussed above, in reality it was an entirely hypothetical benefit, given the lack of property turnover both before and after the project. Therefore, a combination of three alternative benefits from rates, plot sales and imputed rents, has been selected for analysis.

The results show that evaluating the investments purely on rates and the value of plot sales does not yield an acceptable EIRR. Rates would need to be increased by \$5.75 million or plot sales increase by \$5 million for either to bring their respective EIRR up to 10%. However, the change in imputed rental value provides a close to acceptable EIRR of 8.8%; considering the total benefits of upgrading, and in particular the economic benefits to individual households, the upgrading is economically justified

Water Supply, Mbabane (US\$4.317 Million Investment Costs)

Assumptions

Without the project, water supply would continue to be inadequate to meet forecast growth in residential and non-residential water demand. Mbabane water production capacity was approximately 13.5M-/day. Water consumption before the project was approximately 5.5 million m³/year (2.2 million m³ residential and 3.3 million m³ non-residential). Unaccounted for water losses, through a combination of excess pressure in some distribution lines, and old pipes, was approximately 5.2 million m³. Existing deliverable supply was not able to meet current demand or expected growth. Many informal residential areas were

without adequate water supply. For example in Msunduzi, only 6.1% percent of homes had water service in the house, and another 13.5% had water service from a nearby standpipe. Only 5.8% of homes had proper sewerage systems. Environmental health problems were considered serious in low-income and informal settlements. Under the project, SWSC implemented a comprehensive investment programme to upgrade water and sewer services in Mbabane. Four water investment packages are included in the analysis. They each represent an integral part of water supply improvements made in the city:

1. Package 6 - Raw water intake works, pumping station, clear water rising main
2. Package 7 - Water mains, booster station, and reservoir
3. Package 20 - Extensions to water treatment works at Woodlands
4. Package 26 - Reduction and control of unaccounted for water losses

Investment costs are actuals. The SWSC expenditures exceeded the original SAR planned financial investments as SWSC made additional investments from its own resources to generate longer-term system growth and income. Forecast recurrent costs were provided by SWSC. Annual investment costs to implement the recommendations of the unaccounted for water losses are estimated at US\$100,000.

After the project, the benefits of the water supply investments are:

- Reducing unaccounted for water losses to 2.9 million m³ per year (down from 5.27 million m³ in 1997 to 3.62 million m³ in 2005).
- Additional water storage capacity in reservoirs of 3.2 million litres.
- An incremental gain in water production capacity of 1.2 million m³/year to meet growing demand, now 40 percent residential and 60 percent non-residential.
- An ability to meet growth in water demand, estimated to rise by 5 percent annually until new capacity limits are reached.

The benefits are represented by the value of reduced water losses at the existing tariffs (an opportunity cost), and the revenue generated by the capacity to meet incremental demand, growing at 5 percent per year. The weighted average tariff across all tariff blocks for 2005 is US\$1.362/m³ and is assumed to remain constant in real terms over the appraisal period of 25 years. The billing collection rate is assumed to remain constant at 80%, reflecting recent collection efficiencies.

Economic Internal Rate of Return

The EIRR is 1.5%. In order to bring the EIRR up to an acceptable 10%, public health benefits (as a result of clean water consumption) would need to be considered. It was not possible within the scope of the ICR to estimate environmental and/or health benefits from improved supply of potable water to the city. The major benefits would be health-related from reduced incidence of water-borne diseases.

Discussion

The 1994 SAR economic appraisal estimated an EIRR of 18%. However, the analysis included sewage treatment investments (anaerobic ponds) which have not been constructed. In their place, a technologically superior treatment plant has been constructed. A separate EIRR has been calculated for that investment.

Solid Waste Site, Mbabane (US\$ 2.17 Million Investment Costs)

Assumptions

Prior to the project, the existing waste dump within Mbabane was filling up rapidly. Refuse was dumped

and then burned at the site. As a result there were fires 24 hours a day and smoke streamed into surrounding residential areas. The growing health problem was compounded by the fact that there was little separation of hazardous and non-hazardous wastes. The site was not lined and the underlying soil and geological structures were not conducive to containing groundwater contamination. The risk of methane gas explosions was serious because of poor ventilation and landfill management. Without the project, the existing environmental and health problems would continue.

Project investments ran from 1997 to 2001. The new site at Mpolonjeni is based on modern landfill technology and improved management systems. The site is well lined and leachates are drained and contained in a separate lined settling pond. Ventilation systems throughout the dump reduce the risk of methane gas explosions. Toxic or hazardous waste is not permitted at the site. Improved landfill management means that waste is compacted and covered with soil, rather than being burned. The City Council waste levies and rates provide the operating budget for the operations, presently in the order of US\$15,000/year for staff, fuel and repairs for vehicles and plant at the site. A higher figure of \$20,000/year is used in the calculations to allow for vehicle depreciation and small capital improvements, particularly on leachate management from 2006 onwards. The site has a 15-year lifespan (down from the original 25 years), based on 2005 rates of waste delivery of between 30 and 35 tonnes per day. Coverage for waste services was originally predicted to increase from 46 percent to 61 percent of the city through the lifespan of the facility. This represents an additional 32 percent in waste delivery over 2005 levels or 2.2 percent per year. Following discussions with Mbabane City Council however, the real situation is 30-33 tonnes per day, increasing by 5.0 percent per annum. Waste delivery operates 260 days per year. The tariff charged is E50/tonne, equivalent to \$8.12/ton. The tariff has not increased since 2002.

Economic Internal Rate of Return and Net Present Value

Using investment and recurrent costs, expected revenues and reasonable assumptions about waste growth, the NPV is \$ -1.5 million, largely because annual revenues barely cover recurrent costs. Thus, future discounted revenues do not offset the initial investment and substantial costs.

A measurable, environmental benefit is the reduction of greenhouse gases produced from burning waste 24 hours per day in the old dump as compared to compacting the waste in the new dump. If the ventilation system in the new site were slightly modified, it would be possible to collect the methane gas released from decomposition and trade this against carbon credits through the Prototype Carbon Fund, where 1 tonne of carbon (equivalent to 75% of methane composition) is worth approximately \$20 (World Bank, 2000) -- (*however, the site is probably too small for noticeable gains. Also, according to local engineering experts, municipalities operating such systems in neighboring South Africa find the process too complex to operate*). Based on 1 tonne of municipal waste releasing 0.062 tonnes of carbon and as a guesstimate, that 40% of the landfill methane could be captured by current technology (Sheehan, 2000), potential carbon benefits can be calculated. The benefits are approximately \$2,800 when the dump is opened, to just under \$50,000 at the end of analysis period, as waste volumes slowly increase. Given the small size of the waste dump however, the potential carbon value makes little difference to either the NPV or EIRR.

Discussion

A doubling of the current tariff (to E100/tonne or \$16/tonne) would bring the EIRR to 1% but the tariff would have to increase to \$46/tonne before the EIRR reaches 10 percent and NPV is positive.

Another approach would be to consider the health and environmental benefits, which were the key justifications for the project. These could not be quantified with the available data. More detailed studies are required either involving a contingent valuation survey to estimate residents' willingness to pay for

cleaner air, or an analysis of respiratory illness incidence rates in areas near the old dump and linking these to health expenditures and reduced labour productivity.

The simple calculations however, show that an additional annual flow of approximately \$440,000 in environmental benefits is required to generate an EIRR of 10%. (The carbon values reduce the average annual flow of other environmental benefits needed to generate a 10% EIRR (cleaner air, water) to \$415,000.) Applying the willingness to pay rate of 4.2% (Wang and Wittington, 1998) of household income equates to a total willingness to pay of \$1.1 million per year or US\$74/household. If half the households in Mbabane had been affected by the air emissions from the old waste site, then the value of the environmental benefits for improved air quality would be enough to bring the landfill site's EIRR to 10%.

The 1994 economic appraisal estimated an EIRR of 34%. However, this assumed that tariffs for would increase by 30% annually for 10 years, then increase at the rate of inflation. The assumption does not seem realistic based on income levels in Mbabane. The present calculations show that to generate a 10% EIRR, average waste charges would have to be \$46/tonne compared to the current rate used of \$8.12/tonne. By way of comparison, in the UK, the charge is approximately \$16/tonne in 1999 and \$32/tonne in The Netherlands. Given the huge differences in GDP/capita between Western Europe and Swaziland, it is unlikely that solid waste charges in Swaziland could approach \$46/tonne or even levels comparable to those charged in Europe.

Sewage Treatment Plant and Associated Works, Mbabane (US\$ 16.7 Million Investment Costs)

Assumptions

Before the project, sewage in Mbabane was treated by means of waste stabilization ponds constructed during colonial times. The ponds were located on a constricted site with no room for expansion, causing them to become increasingly overloaded as the urban area and sewage flows increased. This caused the quality of the final effluent from the ponds to deteriorate steadily, and by 1985, the pollution to water courses and rivers downstream of the ponds had become a significant public health issue.

The sewage treatment plant investments ran from November 2002 through March 2005, when the plant was commissioned. The works consist of mechanised pre-treatment works at Mqolo, gravitating to a large site in Ezulwini on which are sedimentation tanks, filters and sludge digesters. The environmental benefits of the pre-treatment works and the sewage treatment plant are considerable. The quality of effluent that is discharged into the natural river meets SEA environmental standards. In addition, the works have little to no odour emission to affect surrounding residents.

In May 2005, there were 3,529 sewage connections in Mbabane. On commissioning, the plant had a throughput of 80/sec raw sewage but has a design capacity of 250/sec. It operates 360 days per year and is designed to be able to switch flows between different tanks and filters to allow for continuous operation even if some sections have to be temporarily closed for maintenance and repairs. It is conservatively estimated that the works will reach capacity in 25 years. The SWSC sewage tariff differentiates between residential and non-residential users. It is assumed that 30% sewage volume is residential and 70% non-residential. The annual operating cost of the works (electricity, water, staff, security and chemicals) is \$404,000.

Economic Internal Rate of Return and Net Present Value

Using investment and recurrent costs, expected revenues and assumptions by local engineering experts

about sewage growth, the NPV is \$29.4million and the EIRR is 7%. Raising the average sewage tariff by 25% would bring the EIRR to 10%.

Discussion

The SAR did not do a separate EIRR for the sewage works; large scale treatment plants were not anticipated in the original project design. Therefore, the EIRR done at the time of appraisal, was calculated for a combined water and sewage (ponds system) package. Given the close to acceptable EIRR, no additional calculations have been done to include environmental benefits.

Sensitivity Analysis

A sensitivity analysis was carried out with ranges of between 10 and 20 percent. The different factors selected and calculated had to be realistic and subject to potential change in the future. The investment costs, for example, are already completed and cannot be assumed to increase or decrease. On the other hand, future recurrent costs, rates, collection success and road traffic volumes are subject to change.

Table 4 below shows the impact of key factors that had significant influence on EIRR. Generally, the recurrent costs had little impact on the EIRR. In the case of roads, traffic volume was used. For water supply, the key factors are billing collection rate and growth in water demand. In the case of the STP, changes in tariff affected the EIRR. For the site specific upgrading (Msunduza), only the incremental imputed rental model was used for the sensitivity analysis since only it generated positive returns. Generally, water and housing are fairly robust to changes in the selected factors but the roads, landfill and sewage treatment plant are very sensitive.

Table 4. Sensitivity Analysis

Project Component and Sensitivity Factor	EIRR from Analysis	EIRR with Changed Factor			
		+10%	+20%	-10%	-20%
1. Roads					
(a) Corporation Road, Mbabane	9.70%				
Traffic volumes		14.7	19.6	4.3	-2.5
(b) D98 Road, Manzini	7.70%				
Traffic volumes		12.2	16.3	2.1	--
2. Water Supply, Mbabane	1.50%				
Tariff		1.9	2.4	1.2	1.0
3. Housing, Msunduza (all benefits)	8.80%				
Plot Prices		9.5	10	8.5	8
4. Sewerage Treatment Plant, Mbabane	7.0%				
Tariff		9	10	6	5

Annex 4. Bank Inputs

(a) Missions:

Stage of Project Cycle	No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)		Performance Rating		
	Month/Year	Count	Specialty	Implementation Progress	Development Objective
Identification/Preparation					
	04/08/1992	3	TTL; ENG(1); OpA(1)		
	10/04/1992	5	TTL; ENG(1); OpA(1); UDS(1); FA (1)		
	01/27/1993	2	TTL; ENG(1)		
Appraisal/Negotiation					
	06/29/1993	9	TTL; SPS(1); US(1); FES(1), FA(3); IDS(1); ENG(1)		
	10/21/1994	4	TTL; SC(1); FS(1); SPS(1)		
Supervision					
	09/28/1995	4	TTL; PS(1); DO(1); US(1)	S	S
	06/18/1996	4	ENG(1); SDS(1); OpO(1); FA(1)	S	S
	02/07/1997	5	OpA(1); ENG(1); UDS(1); FA(1); OpO(1)	S	S
	08/02/1997	1	FA(1)	S	S
	10/24/1997	4	OpA(1); ME(1); OpO (1); IDS(1)	S	S
	04/24/1998	4	OpA(1); IDS(1); OpO(1); FA (1)	S	S
	11/23/1998	3	OpO(1); ME(1); SS(1)	S	S
	05/25/1999	4	TTL; SS(1); FA(1); IDS(1)	S	S
	04/26/2000	7	OpO(1); ME(1); FA(1); PSS(1); PC(1); GLS(1); PA(1);	S	S
	11/13/2000	5	TTL; ME(1); FA(1); MFS(1), SPA(1)	S	S
	05/2/2001	4	TTL; ME(1); EE(1), FA(1)	S	S
	11/19/2001	5	TTL; FA(1); SUS(1); ME(1); FMS(1)	S	S
	05/15/2002	4	TTL; FMS(1); ME(1); EE(1)	S	S
	11/20/2002	3	TTL; FMS(1); ME(1)	U	S
	05/08/2003	4	TTL; FMS (1); ME(1); BPS(1)	U	S
	08/28/2003	1	TTL	U	S
	11/15/2003	2	FA(1); BPS(1)	S	S
	02/16/2004	2	TTL; SPA(1)	S	S
	08/23/2004	3	TTL; FS.(1); ME(1)	S	S
	01/04/2005	4	TTL; LWSS(1); OpO(1); TA(1)		
ICR					
	05/01/2005	1	SUS(1)		
	06/28/2005	1	SUS(1)		

TTL Task Team Leader
 BPS Business Process Officer
 DO Disbursement Officer
 EE Environmental Engineer
 ENG Engineer
 FA Financial Analyst

OpA Operations Analyst
 OpO Operations Officer
 PA Program Assistant
 PS Procurement Specialist
 PSS Principal Social Scientist
 SC Senior Counsel

FES	Finance and Economic Specialist	SDS	Social Development Specialist
FMS	Financial Management Specialist	SPA	Senior Procurement Adviser
FS	Finance Specialist	SPS	Senior Procurement Specialist
GLS	Gender and Law Specialist	SS	Social Scientist
IDS	Institutional Development Specialist	SUS	Senior Urban Specialist
ME	Municipal Engineer	TA	Team Assistant
LWSS	Lead Water & Sanitation Specialist	UDS	Urban Development Specialist
MFS	Municipal Finance Specialist	US	Urban Specialist

(b) Staff:

Stage of Project Cycle	Actual/Latest Estimate	
	No. Staff weeks	US\$ ('000)
Identification/Preparation	168.4	372.5
Appraisal/Negotiation	79.3	198.1
Supervision	215.8	471.5
ICR	2.5	10.2
Total	466.0	1052.3

Annex 5. Ratings for Achievement of Objectives/Outputs of Components

(H=High, SU=Substantial, M=Modest, N=Negligible, NA=Not Applicable)

	<u>Rating</u>				
<input type="checkbox"/> <i>Macro policies</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Sector Policies</i>	<input checked="" type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Physical</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Financial</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Institutional Development</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Environmental</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<i>Social</i>					
<input type="checkbox"/> <i>Poverty Reduction</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Gender</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Other (Please specify)</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Private sector development</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Public sector management</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Other (Please specify)</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA

Annex 6. Ratings of Bank and Borrower Performance

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HU=Highly Unsatisfactory)

6.1 Bank performance

Rating

- | | | | | |
|--------------------------------------|--------------------------|------------------------------------|-------------------------|--------------------------|
| <input type="checkbox"/> Lending | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Supervision | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Overall | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |

6.2 Borrower performance

Rating

- | | | | | |
|--|--------------------------|------------------------------------|-------------------------|--------------------------|
| <input type="checkbox"/> Preparation | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Government implementation performance | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Implementation agency performance | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Overall | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |

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Additional Annex 8. Borrower's Contribution

SWAZILAND URBAN DEVELOPMENT PROJECT IMPLEMENTATION COMPLETION REPORT BORROWER'S CONTRIBUTION

A Assessment of the Project Objectives, Design, Implementation and Operation Experience

A1 Project Objectives

The project had two stated objectives; a) to provide a basis for sustainable urban development through emphasis on policy reform, institutional development, pilot land reform, participatory development, and housing solutions for moderate and low income urban households and b) to address critical infrastructure needs (water, sanitation, waste disposal and roads). The objectives were set in the context of this project being the first phase of a long term programme aimed at increasing the delivery and effectiveness of urban management services and improving living conditions of low income urban households.

The objectives were consistent with the Government's recognition of; i) the rapid growth of urban populations, particularly in the two main urban centres (now cities) of Mbabane and Manzini, and the development of unserved, informal settlements on the perimeters of these areas (an outbreak of cholera in the mid-1980s had served to focus attention on these areas, and Government had responded by installing emergency piped water supplies where this was technically and feasibly possible), and ii) the need to restructure the administration of urban areas at national (there were several ministries dealing with urban matters) and sub-national level, where with the exception of Mbabane and Manzini, whose councils had limited power, urban areas were centrally controlled.

A2 Project Design

With no local precedent to work on, the project design drew on the Bank's recent experience within the region and was structured to address the physical, social and institutional objectives in a comprehensive and integrated manner. Hence the triple focus on a) institutional, legislative and policy reform, b) upgrading of services and provision of secure tenure within informal settlements and c) expansion and strengthening of primary infrastructure.

The size, scope and complexity of the project meant that its design was itself a complex operation, comprising a 3-stage, 18-month process; a 3-month intense strategic planning exercise followed by preliminary then final design, and involving a consultant's team of some 50 professionals, a project coordination unit, a project steering committee and numerous sub-committees and working groups within central government and its implementing agencies, and participation throughout the process by representatives of the

affected communities and other stakeholders (NGOs, civic organisations etc). The project preparation and design phase covered the period 1992-1994. The loan was signed in July 1995 and the project became effective in January 1996.

To best achieve the project's objectives, the project design was divided into five primary components:

a) Component 1: Policy Development & Review of Legislation

The key tenet of policy and legislative reform was to achieve a well functioning urban sector in the medium term. Consequently, the following were identified through a series of workshops held during the preparation phase as key policy issues of focus:

- (i) *Allocation and sale of land in the informal settlements* - this included definition of policies and procedures to govern community liaison, allocation of land in the informal settlements, design and pricing of plots for sale on the basis of full cost recovery, and relocation and compensation policies and procedures.
- (ii) *Creating an enabling environment for the city councils to collect property taxes and raise revenue independently* - this included developing an Urban Government Policy to define the framework for local authorities' operation with regard to central government subventions and commercialisation of operations; and revision of the Rating Act to facilitate rating of and collection of taxes from Government property.
- (iii) *Introducing a system of tenure that would be workable within the informal settlements and on peri-urban Swazi National Land (SNL)* - development of urban and peri-urban land policies including definition of a systematic process for incorporating SNL efficiently and equitably into urban areas, based on the pilot projects on SNL included in the project. This would be supported by review and modification of sector legislation and/or regulations governing physical planning and development control, and disposal of Government land, as well as developing a housing policy implementation plan.
- (iv) *Initiatives for encouraging commercial banks to diversify into mortgage lending* - assessment of the feasibility of establishing a secondary mortgage market to increase funds available for housing finance and to encourage commercial banks to diversify into mortgage lending.

b) Component 2: Institutional Support & Development

The aim of this sub-component was to increase the long-term effectiveness of sector institutions, in particular, financial management as well as operations and maintenance capacity. It was also intended to build project implementation capacity of key implementing agencies and other supporting institutions. This would be achieved through twinning arrangements, technical assistance and training. Specific institutions targeted included the Ministry of Housing and Urban Development (MHUD); Mbabane and Manzini City Councils (MbCC & MzCC); Swaziland National Housing

Board (SNHB); Swaziland Water Services Corporation (SWSC); and support agencies namely the Surveyor General's Office, the Swaziland Environment Authority, and the Deeds Registry Office.

c) **Component 3: Rehabilitation & Expansion of City Roads & Services**

This component aimed at rehabilitating existing city roads, developing new solid waste sites in Mbabane and Manzini and providing vehicles and equipment to improve operations and maintenance.

d) **Component 4: Rehabilitation & Expansion of Water & Sewerage Services**

This component aimed at reducing the negative environmental impacts of the inadequately treated sewage effluent into waterways and contributing to raising health standards through rehabilitation of existing sewage treatment works, and construction of new facilities in Mbabane and Manzini. This would be complemented by rehabilitation and expansion of the water supply network to accommodate overall growth in demand and accommodate the requirements of the informal settlements to be upgraded under the project.

e) **Component 5: Residential Housing Sites including On-site Infrastructure**

This component covered upgrading on-site infrastructure consisting of roads; footpaths; drainage; water supply; sanitation; communal structures such as water points, refuse collection points, street lighting, and landscape works for about 5000 informal urban housing sites of which about 3700 would be in Mbabane and 1300 would be in Manzini. In order to accommodate varying affordability levels within the communities, plot sizes were designed to range between 200 and 750 square metres. Planning and design were undertaken in cognisance of existing settlement patterns, hence effort was made to minimise need for resettlement. The plot allocation, sales as well as resettlement processes were guided by plot allocation criteria, plot pricing policy, and resettlement and compensation policy and guidelines that reflect (i) the concerns of the affected communities; (ii) the need to minimise resettlement; and (iii) the need to ensure cost recovery and profitability for the implementing agency.

Summary of Major Principles and Assumptions made at Project Preparation and Design Stage

- At design the project was estimated to cost US\$ 51 million (equivalent to E253 million at 1994 prices) and would be implemented over four and half (41/2) years.
- On site infrastructure upgrading would be on a full cost recovery basis.
- Upgrading of on site infrastructure would be through a Revolving Fund created through sale of plots in one area to generate funding for the next residential upgrading area. It was assumed the residents would repay the plot price in six (6) months.
- Government would issue a Loan Guarantee to the Swaziland Building Society to stimulate mortgage financing for the lowest income group within the project areas. This would provide a premise for involvement of financial sector in low

income housing in the future.

- A 99-year leasehold title would be introduced in the project areas. This would provide a basis for confidence in the title as bankable.
- The World Bank and the Government of Swaziland were to be the main financiers of the project, whilst DfID, USAID and UNDP would be the co-financiers of specific project components.

A3 Project Implementation

A.3.1. Institutional Assessment

The institutional framework for project implementation comprised the Ministry of Housing and Urban Development (MHUD) providing oversight and the city councils of Mbabane and Manzini, Swaziland National Housing Board and the Swaziland Water Services Corporation being the Implementing Agencies (IAs) responsible for actual project execution. The Deeds Registry Office, the Surveyor General's Office and the Swaziland Environment Authority were involved in project implementation as Support Agencies (SAs) to the Implementing Agencies. MHUD provided project oversight through the Project Coordination Unit (PCU) and the Project Steering Committee (PSC) with its various sub-committees. Other agencies that were mostly involved in project implementation were the Ministry of Finance; Ministry of Economic Planning and Development; Treasury Department; Auditor General's Office; and the Attorney General's Office. All these agencies contributed towards the successful implementation of the project.

A.3.2 Implementation Assessment

A.3.2.1 Public Participation and Project Ownership

From the very onset of project preparation, public participation was recognised as the 'backbone' for project success. Therefore, considerable effort and resources were dedicated to this aspect from the start. Capacity for this function was built both at MHUD and Implementing Agency level, and various strategies for community participation applied throughout project preparation and implementation. Despite this commitment, it has been difficult to achieve project ownership in some of the project areas. In effect, there is actual resistance to project implementation in one out of the five on-site upgrading project areas. Similarly, construction of the sewage treatment works was delayed due to one of the host communities reneging on an earlier agreement reached regarding location of the treatment plant. Again, an alternative site is being sought for the Manzini solid waste landfill site as the previous host community is no longer amenable to the project.

During the early stages of project implementation, difficulties of project ownership were experienced even among some of the agencies. These were resolved through an intensive consultative process which clarified the benefit of project implementation to each of the agencies.

A.3.2.2 Implementation Strategy and Period

a) Component 1: Policy Development & Review of Legislation

Policy and legislative reform initiatives identified as key during project preparation were all in place either before or early during project implementation. The successful introduction of these policy and legislative reforms provided a critical platform for facilitating institutional reform which had been identified as important for successful project implementation.

These initiatives were subsequently complemented by other policies that have been developed during implementation:

- The policy to enhance affordability was designed to aid the plot allocation and sales process by catering for those residents who may have difficulty in fulfilling their plot purchase requirements.
- An Intergovernmental Fiscal Transfer formula has been adopted to make funds flow from central to local government transparent and predictable. The city councils of Manzini and Mbabane and SWSC underwent a Credit Rating exercise to assist them in determining their potential for raising capital in the financial market.
- Following the introduction of plot allocation criteria that are not gender-biased, the project has facilitated a process for reviewing legislation relating to property ownership to remove gender biases. This process is still ongoing and is expected to culminate in a revised Marriages Act and Deeds Registry Act.

b) Component 2: Institutional Support & Development

The two-pronged focus of this component was pursued through technical assistance, twinning arrangements with similar organisations and training. Twinning programmes were introduced for SWSC, MbCC and MzCC to enhance their managerial and operational effectiveness. Similarly, technical assistance programmes were introduced for SWSC and SNHB. The effectiveness of these programmes varied amongst the agencies. Overall, notable improvements in management and operations were realised.

A Technical Support Unit (TSU) was established to support the PCU of MHUD, all the IAs and the Support agencies with project implementation. Internal skills enhancement has been pursued through training on various aspects that were identified early during project implementation to be critical for success, and those identified during the course of implementation. A sample of key areas addressed includes various aspects of: computer skills; World Bank procedures; project management; contract management; and financial management. A major set back to skills retention has been the high turnover of staff in some of the agencies. Nonetheless, there are notable improvements in operations within the agencies.

Most of the agencies either did not have or had incomprehensive management information systems prior to project implementation. A spin-off of the institutional support programmes has been increased focus on introducing or improving MIS in all the Implementing agencies. Unfortunately, this important aspect of institutional support

although identified as a major need for SWSC and the two city councils during project preparation no resources were dedicated within the project budget to support the IAs for addressing this gap. Over the years it has increasingly come to the fore as quite critical.

c) Component 3: Rehabilitation & Expansion of City Roads & Services

The City Council of Mbabane was responsible for rehabilitation and upgrading of five major collector roads, construction of a new solid waste landfill site and closure of the old landfill site. The Manzini City Council was responsible for rehabilitation of numerous streets within the Central Business District of the city and two major collector roads, construction of a new solid waste landfill site and closure of the old landfill site. The MbCC has managed to complete all its packages under this component. It has also implemented other complementary initiatives namely, construction of a compensatory water scheme for the community settlement in proximity of the landfill site and is currently improving the leachate treatment facility to enhance the functionality of the landfill site. The MzCC has completed the roads rehabilitation and upgrading projects but was unable to proceed with construction of the solid waste landfill site due to resistance of the host community to the location of the landfill. The community's position created an opportunity for efficiency in land utilisation and regional cooperation, as Manzini City Council is now partnering with Matsapha Town Board (MTB) in constructing a regional facility that would serve both towns. Although, this has meant the project has delayed for Manzini residents, it is expected to yield considerable benefits in operational efficiency, efficient land use and cost savings. Consequently, MzCC has not yet closed the old landfill site, which is operating at full capacity. This therefore makes it urgent to proceed with the MzCC/MTB joint venture.

Both city councils were assigned solid waste collection and management vehicles and equipment. All the required plant and other related equipment has been purchased. Both city councils report on a quarterly basis on plant availability and utilisation. The figures indicate that both city councils achieve their performance targets, which indicate acceptable operational efficiency levels.

d) Component 4: Rehabilitation & Expansion of Water & Sewerage Services

The SWSC has improved water supply coverage in both Mbabane and Manzini through construction of an additional reservoir in each town and through upgrading and rehabilitating the water treatment plant in Mbabane. The SWSC has also completed the construction of sewage treatment works for both Mbabane and Manzini, which addresses the negative environmental impacts of inadequately treated sewage effluent. Both plants are now operational. SWSC is also monitoring water consumption against supply, and undertaking rehabilitation on the water supply network in Mbabane, Matsapha and Manzini to reduce water losses based on an Unaccounted for Water study prepared under the project.

e) Component 5: Residential Housing Sites including On-site Infrastructure

The SNHB was originally designated to be the IA for the five packages under this component, but due to a number of implementation challenges two of the packages were

re-assigned to MbCC and one to MzCC, leaving SNHB with two packages. The SNHB has completed the Msunduza site in Mbabane and is yet to upgrade the Mhobodleni site in Manzini. Upgrading of the Mhobodleni site is contingent upon MHUD resolving issues relating to administrative responsibility for the area after upgrading. The MbCC has completed the Nkwalini site in Mbabane and is currently upgrading Mahwalala, which should be completed in June 2006. Although MzCC started preparations for the upgrading of the Moneni site in Manzini, physical progress has so far been thwarted by community resistance to the project. Currently, effort is being expended to resolve the concerns of the community leadership.

Thus at close of the loan, only two of the on-site upgrading areas have already been completed, one is ongoing and the other two are undergoing design review. Progress on this component has been less than satisfactory due to the challenges that have arisen during implementation. It is imperative that these challenges be resolved to fulfil one of the key objectives of the project, which is to provide leasehold title to the residents of the informal settlements.

A4 *Output/Outcomes Assessment*

A.4.1 Project Objectives

The Mid Term Review (MTR) of the project conducted in April/May 2000 found that the project was generally sound and its objectives still relevant. Emphasis was pointed towards adopting strategies for: (i) entrenching the financial independence of agencies; (ii) ensuring that the agencies achieve service standards; (iii) facilitating policy and legislative reform to ensure equity in access to land and efficiency in land utilisation; and (iv) strengthening implementation capacity within the various agencies and project management and coordination within the PCU of MHUD. At the end of implementation it can be noted that the project is lagging behind in achieving one of its key objectives: providing secure tenure to residents, given that only two out five on-site upgrading packages have been completed. Consistent effort should be expended to ensure that this objective is achieved.

A.4.2 Implementation Schedule and Period

A key assumption made at project preparation on the overall programme implementation, was that the various packages would be implemented concurrently. This was an important assumption because it influenced the liabilities of the various agencies, as their income streams from project activities were inter-dependent. For instance, although SWSC was supposed to introduce a tariff model to guide its charges for services on an annual basis, it also expected an increase in revenue following investment in the water supply network flowing from sales to residents within the project areas. Therefore, its projected income streams and loan repayment schedules were prepared in cognisance of these factors. Therefore, the delay in residential upgrading has affected SWSC's income, hence its ability to service its debt. Similarly, the delay in the residential upgrading packages has meant a delay in the realisation of rates income for the local authorities, whilst the demand for service delivery in some of these areas is already catered for. This puts a pressure on the cost of services for the rest of the urban residents.

Project effectiveness was achieved a year later than anticipated that is on January 23, 1996 due mainly to the protracted resolution of the transfer of Swazi Nation Land required for project activities to government agencies. The late implementation start coupled with the fact that the executing agency and implementing agencies were on a learning curve regarding World Bank procedures was translated into slippages in the implementation programme.

A.4.3 Financing and Debt Recovery

Another assumption made during project preparation was that the residential packages would be financed through a Revolving Fund. This means that only seed capital was provided for the first package, which would then yield proceeds for implementing the subsequent packages. The immediate impact of this was that the entire residential upgrading programme became dependent on the ability and willingness to pay of the residents of the first scheme. This was further compounded by the premise that the residential packages would be undertaken on a full cost recovery basis. Furthermore, the developer's loan repayment schedule was based on the ability to collect sales proceeds within the short term. All these factors provided a recipe for a high implementation risk which was not realised at the time, which hindsight has proved to be impractical for a number of reasons: a) This overlooked the known fact at the time (based on the Land and Housing Market Study done as part of project preparation) that the informal settlements are low income areas, therefore the payback period has to be longer to enhance affordability; b) Full cost recovery also meant the low income people had to bear a higher average cost of upgrading than the rest of the residents within the city, which in socio-economic terms is inequitable; c) The short repayment period meant that the developer was highly exposed to financial loss attributable to non-payment by residents, hence adversely affecting its ability to service the debt.

A4.4 Loan Disbursement

Loan disbursements have been lagging behind actual implementation throughout the original implementation period, except for the last two years of the extended loan period. This is mainly due to three reasons: a) during the early years of project implementation, the Rand/Lilangeni was quite volatile and weak compared to the US Dollar; this meant that the cost of the packages implemented during this period reflected a lower cost in dollars than what was the actual cost in Emalangeni; further, the completed packages were smaller in relative terms; b) over the past two years the Rand/Lilangeni has stabilised and become stronger towards the US Dollar; c) moreover, implementation of the two largest packages (sewage treatment works) which account for over 50% of the loan proceeds was delayed by over two years, and only commenced during the last two years, hence the significant increase in disbursement. For instance, at the time of the MTR financial estimates were that 71% of the loan should have been disbursed, whereas actual disbursement was at 26%. This would give the impression that the project was grossly behind schedule. But an assessment of actual physical progress of the capital works programme reflects higher performance than the financial estimates. At that time 10 packages had been completed, 5 were ongoing, 3 were already being procured, 7 were yet

to commence, and 2 were deemed no longer required. It can be said at that time the project was about 55% complete. During implementation, the Bank tended to rely primarily on financial data to scrutinise project performance therefore would consistently raise concern about a poor implementation rate. It can be observed that the analysis technique by being single-focused was misleading for interpreting all-round performance. A more informative approach would be to utilise analysis tools that consider financial performance in tandem with physical progress.

A.4.5 Operation Experiences

Although the project achieved its objectives, there were a number of challenges experienced during implementation. These included (a) delays in contracting due to long and tedious procurement processes of the Bank, unfamiliarity with the procedures by project staff, impact of staff changes within the Bank; (b) delays in implementation due to frequent changes in community requirements for hosting project activities resulted in higher costs which exceeded the budget available; (c) inadequate availability of counterpart funding from central government, resulting in further implementation delays.

During implementation, the project received recognition from the Bank for sound social development practices based on the consultative and participatory processes utilised in the project for community involvement.

B Borrower's Performance

B1 Project Preparation

In a general sense project preparation spanned almost a decade, from 1985 when the project was first mooted, through feasibility and institutional studies, detailed planning and engineering design, to project appraisal in 1994 and the project implementation launch in 1995. Thus twenty years later, any institutional memory, either written or human, which could be harnessed to assess the Borrower's performance in the early stages, no longer exists. The previous fragmentation of agencies concerned with the different aspects of urban development and administration (one of the problems that activated the need for this project), itself contributes to the unavailability of contemporary data.

Formal project preparation only commenced in the late '80s, when a feasibility study of the physical components and three institutional studies were undertaken, which culminated in 1990 with a series of stakeholder workshops and the decision to proceed with an integrated urban project which would address the physical, social, economic, institutional, legislative and policy challenges facing the urban (and at that stage, the industrial) sector. The primary outcomes of these activities were the establishment of the MHUD in 1991 and the award of the project preparation design consultancy the following year, after which the pace quickened considerably.

In terms of effort, active involvement and output, the performance of GoS during this period was notable, and made a significant contribution to the project. The Project Steering Committee met regularly to monitor overall progress and address problems, but

the heavy-duty work was done by several sub-committees and working groups involving personnel, mainly from MHUD but also from many different government departments and parastatal agencies, working with consultants in developing a wide range of new and revised policies, legislation, strategic plans, appropriate engineering and planning design standards, as well as reviewing and approving a massive amount of technical output from the consultants themselves. All this input required a serious commitment to the project and its goals from senior government officials, and an unusual degree of dedication from the individual officers that participated directly.

However, a review of the Borrower's performance during this period highlights one major problem (which has also persisted throughout the life of the project); an inability to maintain agreed time schedules and meet agreed deadlines. At virtually every step along the way, delays were incurred. In the early days, this could be blamed on the fragmentation mentioned above, and then on the limited resources of the newly formed ministry, but it seems in almost every avenue there arose unforeseen obstacles that blocked timely progress. Clearly the schedules and deadlines must have been too optimistic in the first place, particularly since they involved community representatives, who were themselves resistant to (even suspicious of) any time pressures, and land acquisition (potentially a massively sensitive and time consuming process); but the fact remains that the bureaucratic processes within and among central, local and quasi-government agencies in Swaziland do not support speedy decision-making, and this problem continually slowed progress.

On reflection, given the size and state of development of the country at the time, perhaps the project was too large and too complex to be driven at the pace that it was. Whatever the cause, the result was that project preparation lasted a decade, and some physical components (e.g. sewage treatment works) took even longer to prepare.

B2 *Implementation Performance – Central Agencies*

The implementation of the project had problems including resistance of communities on project sites and this resulted in delays in commencement of some of the components of the project, hence the very slow disbursement at the initial stages, to the extent that a large proportion of the loan had not been disbursed by the end of the last day of disbursement. The delay in start of implementation for some of the project components also led to cost escalations; especially on the upgrading of residential areas and the sewage treatment plants, which is a major component of the project. Government made a commitment to finance the costs over and above the proceeds of the loan.

The World Bank responded positively to a request for extension of the disbursement period. As project implementation continued and eventually commencement of the sewage treatment works, the rate of disbursement increased significantly as substantial amounts were disbursed on a monthly basis. Following advice from the World Bank and based on experience with other loan-financed projects, the direct disbursement method was used for this component to speed up disbursement of the funds and payment of the contractors/vendors. Experience with use of the reimbursement method through the

Special Account proved to be a very slow process. However it still remained active to facilitate payment of small amounts for other project components. By the end of the disbursement period, the loan was almost fully disbursed (99.98%)

Due to changes that occurred during the life of the project, it became necessary to review the Subsidiary Loan Agreements signed with the Implementing Agencies at the start of the project. The Ministry of Finance will soon resume discussions with the implementing agencies to review the Subsidiary Loan Agreements so that they reflect the changes that have taken place during the course of implementation.

B3 *Implementation Performance – MHUD and PCU*

The MHUD was the executing agency for the project and was responsible for overall project coordination and ensuring that all Implementing Agencies' components were implemented according to project design. The Implementing Agencies included MHUD for components 1 and 2, MzCC and MbCC for component 3, SWSC for component 4, SNHB and subsequently MzCC and MbCC for component 5. (*See Section A.3.2.2 for detailed description of components*)

The MHUD was supposed to establish a Project Coordination Unit prior to start of implementation to coordinate all project activities. But the PCU was only established two years into implementation. This adversely affected implementation progress as there was no dedicated staff to guide and support the Implementing agencies. Once established, the PCU has continuously provided support and guidance to the agencies. Similarly, the process of contracting the Technical Support Unit (TSU) took longer than expected; hence expert advice was not immediately available to the agencies during the early stages of implementation.

The PCU was supported by the Project Steering Committee (PSC) and TSU in coordinating technical implementation issues and resolving implementation challenges, and providing the requisite support to the IAs. The PSC met on a monthly basis to continuously facilitate implementation progress. PSC provided a critical platform for coordinating the activities of the various agencies and monitoring implementation progress.

B4 *Implementing & Support agencies' Performance*

The Implementing agencies mentioned above were responsible for the actual implementation of their respective components. They had a very close working relationship with the executing agency (MHUD) and the borrower (MoF), and the Support Agencies

The MbCC was able to complete all of its original packages within the designated implementation period and is currently implementing the last of its additional packages. The MzCC was able to complete all of its original packages within designated implementation period, except for the construction of the solid waste landfill site which is now being implemented outside of the Urban Development Project. The MzCC is

currently implementing its additional package.

The SWSC has been able to complete all of its original packages during the extended project period. Construction of the sewage treatment works for both Mbabane and Manzini respectively were the most delayed packages. This was mainly due to the host community of the Mbabane plant renegeing on an earlier commitment to the project, later expressing additional requirements for accepting location of the plant within the community.

The SNHB has only been able to complete one of its original packages during the designated project period. This is the Msunduza residential upgrading component, which was delayed by protracted consultations with the community regarding implementation. Furthermore, the terrain of the site was extremely rugged and steep, which also negatively affected implementation progress.

The remaining package, Mhobodleni upgrading has been stalled by two factors: i) the need to resolve and assign an agency for administering the area after upgrading; ii) inadequate counterpart funding by central government has resulted in re-scheduling.

C Bank's Performance

The overall performance of the Bank was satisfactory throughout the life of the project. During the course of preparation and implementation there has been a total of four Task Managers and several changes of support personnel over the years. These personnel changes understandably led to changes of focus and style in the supervision team, which it is felt, contributed to some activities taking longer than they might have done without such changes. However, it is also accepted that with such a long-running project, some changes were inevitable, and probably did not materially affect the supervision teams' overall performance. The Bank's input has assisted the project in moving forward at certain critical times during its long history.

Due in part to previously limited Bank involvement in Swaziland, there was minimal experience or expertise within GoS or the IAs at the start of project implementation of the rules for procuring works, goods or services in accordance with the Bank's guidelines, or of administering the contracts that followed, so the Bank's supervision missions were required to provide patient technical support and professional advice to MoF, MHUD, the PCU and Implementing Agencies over the years, as well as training officers in procurement and contract administration procedures. Similarly, the Bank's teams have worked hard over the years to support the IAs in meeting their performance targets.

The Bank has always responded satisfactorily to all requests for 'no objections', and most of the disbursements were timely. The Bank also accepted the Borrower's request to extend the project loan duration on two occasions.

D Lessons Learned

D1 Size and complexity of the project

- a) *Project design:* A possible criticism of the project design is that by attempting to be all-embracing, important time and attention was deflected from the project's core objectives towards related but strictly peripheral activities 'bolted on' to the core design (viz. Requirement for a Dam on the Black Umbuluzi, the Mbabane Land Use, Road Planning and Traffic Study, Accounting for Water, etc.). These might have been better done separately.
- b) *Complexity:* The project was designed as a core part of the mechanism for formulating and establishing the urban sector framework for the country, which was previously not coordinated or formalised. The project had to cater for conducting the policy and legislative reform for the sector and institutional strengthening of key agencies simultaneously with citywide and on-site infrastructure upgrading. This led to the complexity of the project in that the agencies that would be responsible for project implementation still required strengthening; and the required policy framework, which was previously non-existent, would be developed through the same project. It may have been more expedient that implementation of the various components had been staggered.

D2 Unrealistic timescale

Based on the factors discussed above, with hindsight it can be seen that the 5-year timescale initially allowed for implementation was insufficient, since it actually took ten years to complete. However, there were specific reasons for this, which could not reasonably have been foreseen:

- The land acquisition for the two sewage treatment works sites proved to be an extremely sensitive and lengthy process;
- The aborted then repeated procurement process for Package 18 design and supervision consultancy;
- The lengthy process involved in determining a plot price, combined with the slow pace of sales in Msunduzi, delaying the entire implementation of residential upgrading.

D3 Land issues

The informal settlements identified for upgrading, typically comprised the three land tenure systems prevalent in the country, namely: i) Swazi Nation Land – land held in Trust by the Ngwenyama and administered by the Chiefs; ii) Title Deed Land – Government owned plots as well as private farms and plots; and iii) Concession Land – Concessions of land issued by the Ngwenyama for certain purpose. To attain the objective of providing equitable access to land for residents in the informal areas the 99-Year Leasehold concept was introduced to harmonise the land tenure system within the areas.

Although the introduction of the 99-Year Leasehold title provided the basis for equitable allocation of land to qualifying residents, socio-economic and legislative impediments to effective application of the tenure were identified during implementation. These included

affordability concerns and the variations in contracting ability of married women. A policy to enhance affordability was introduced to address the affordability concerns, whilst the Marriages Act is being revised, which would be subsequently followed by the Deeds Registry Act in order to secure the contracting ability of women regardless of marital status. It is notable that on average about 40% of the households in the upgrading areas are headed by women, and such households are mostly in the lowest income range. Therefore, it was realised that equitable access to land means more than issuing a title document, but also includes addressing impediments to access.

D4 Ownership by institutions and communities

A Land and Housing Market Study undertaken as part of project preparation, to determine development priorities of the prospective beneficiaries revealed that they were keen to have their areas upgraded. Based on the information yielded by the study, enabling residents to raise their own standards of living by providing affordable title to urban plots and allowing for incremental building of permanent homes was identified as one of the key objectives of the project. Nonetheless, it was still imperative that the project team secure community “buy-in” to the project. Therefore, a process for periodic consultative meetings between the residents and Government was introduced during project preparation to ensure that the beneficiaries concerns were incorporated into the project design and policy formulation. Although this process was lengthy and re-iterative, it was recognised as an imperative for ensuring meaningful interaction with the residents and assuring project acceptance. Furthermore, the consultative process has been carried through project implementation, beyond preparation as it was realised as the key means for retaining commitment to the project.

During implementation it was realised that it was just as important to secure “buy-in” to the project from the various agencies involved in project implementation. Therefore, the PCU had the task of facilitating consensus and reconciliation of competing interests and priorities of the various implementing stakeholders with project imperatives. This was achieved through workshops, one-to-one meetings, and coordination meetings with all stakeholders.

D5 Resource Allocation

Policy development and legislative reform as well as institutional strengthening were identified as part of the key aspects for project success. Yet in retrospect inadequate resources were allocated to these components. Furthermore, when funding shortages were realised during implementation, decisions were made to cut back further on these components. This meant that institutional capacity gaps identified during the implementation period could not be addressed adequately, due to lack of resources. A notable example of this approach was the need for assisting the IAs with designing and implementing management information systems. Although this important aspect which would assist agencies better monitor and improve their performance, identified during preparation, no support could be availed to the agencies as there was no funding to sustain the activity. Similarly, there was a cutback on training in order provide additional resources to the capital works programme. It can be said the soft development issues

suffered the consequences of competing for resources with high visibility infrastructure components.

D6 Cost Recovery and Affordability

Hindsight has reflected that the parameters that were applied for implementing the residential upgrading components were at best unclear and self-defeating at worst. They overlooked the fact that the success of low income upgrading schemes depends on the beneficiaries' capacity to pay in terms of affordability and the repayment period. Applying full cost recovery weakened the beneficiaries' ability to pay. Furthermore, the mechanism for applying full cost recovery was unclear. Therefore, a decision was taken during implementation not to apply this principle directly to the beneficiaries. Instead it was resolved that residents should be liable for on-site costs and alternative measures be considered for recovery on citywide costs. This improved the probability for success for the schemes.

Reassigning some of the residential upgrading packages to the city councils has allowed for parallel implementation of these packages and has improved the probability of achieving the objective of providing secure title to the residents.

Additional Annex 9. Changes to Project Components (Loan Allocations)

Changes to Project Components (Loan Allocations)

Component	Original IBRD Loan US\$m.	Reallocation, 3/27/2002* US\$m.	Reallocation 2/12/2003	<i>De Facto</i> Disbursements Under Loan at EOP, 3/31/05
Policy and Institutional Reform	2.7	3.0	3.8	3.85
Rehab and Expansion of City Roads and Services	4.5	5.7	3.6	3.6
Rehab and Expansion of Water and Sewerage Services	14.3	14.3	18.4	18.9
Residential Housing Sites and On-site Infrastructure	1.7	1.7	1.7	0.83
Project Implementation Assistance	1.5	1.5	1.5	1.76
Unallocated	4.3	2.8	0	0
TOTAL	29	29	29	29

* PSR # 20 April 2003 is the first PSR to reflect the component changes. However, it only refers to Bank Loan amounts whereas previous PSRs referred to total project costs and the total amount was less than \$51.5 million – this was not well captured in the PSRs, so the table uses the verifiable, formal Loan amendments and reallocations made to the Categories

The first formal change was made in early 2002. By that time, Mbabane and Manzini City Councils, two of the four main IAs, had completed all of their eight contracts under the Project (*In the case of Manzini, construction of a new solid waste site was not yet underway but this contract was taken out of the project and will be developed separately, in joint venture with the nearby Matsapha industrial area.*). However, progress by other IAs on other parts of the project, in particular the residential upgrading and construction of the STPs was well behind schedule. In order to keep the two councils actively participating in the project and learning from the procurement and project management functions under the extended project timeframe, the scope of the Policy and Institutional Reforms component and the Rehabilitation of Roads component were both expanded.

The second change was made in early 2003, when project Implementation Performance on the part of the Borrower was rated as Unsatisfactory. To address the implementation performance shortcomings and the increased cost of the STPs, the funding of the different components was reallocated and previously unallocated and uncommitted funds in all categories were reallocated towards completion of the STPs and the Project Implementation and Institutional Reform. In the case of the latter, a second phase of engineering, financial and environmental consultants to assist the PCU and the IAs and additional policy reforms and studies in the urban and decentralization sector were undertaken.

In addition to the reallocations, the project was extended by two years, from March 31, 2002 through March 31, 2004 in order for the outstanding physical works and policy studies to be undertaken. Subsequently, the project was extended once more, through March 31, 2005 for the same reasons.

Additional Annex 10. Key Performance Indicators of Implementing Agencies Over Time

Mbabane CC		Mid-Term (Oct. 2000)						
	Baseline	1998/99	1999/00	2000	2000/01	2002/03	2004 EOP	
% rates collected	65	51	68	55	79	86	72	81
% rates collected (target)	75	75	75		75	75		75
% plant & equipment available		90	94	96	92	83	83	85
% plant & equipment available (target)	70	70	70		70	70		70
% vehicles available		85	90	94	94	98	90	90
% vehicles available (target)	70	70	70		70	70		70
Refuse collected (tons/month)							600	700
Manzini CC		Mid-Term (Oct. 2000)						
	Baseline	1998/99	1999/00	2000	2000/01	2002/03	2004 EOP	
% rates collected	65	55	50	55	90	95	93	96
% rates collected (target)	75	75	75		85	75		75
% plant & equipment available		80	88	86	75	72	79	79
% plant & equipment available (target)	70	70	70		70	70		70
% vehicles available		80	88	76	86	85	74	74
% vehicles available (target)	70	70	70		70	70		70
Refuse collected (tons)	46						420	

Key Performance Indicators of Implementing Agencies Over Time (Continued)

SWSC	Mid-Term (Oct. 2000)						
	Baseline	1998/99	1999/00	2000/01	20002/03	2004 EOP	
Employees/1,000 connections	53	29	25	29	24	28	18
Employees/1,000 connections (target)	23	23	23		23	23	23
% unaccounted for water	47	41	31	41	41	31	27
% unaccounted for water (target)	35	35	35		35	35	35
Bad debt: sales ratio		12	16	12	30	18	15
Bad debt: sales ratio (target)	20	20	20		19	20	20
Average collection period (days)	194	194	62	277	307	277	139
Average collection period (days)(target)	150	150	150		150	150	150
SNHB (Msunduza housing area)	Mid-Term (Oct. 2000)						
	Baseline	1998/99	1999/00	2000/01	20002/03	2004 EOP	
No. title/leases issued	0				86	154	249 291
No. leases fully paid, awaiting registration	0				373	423	127 233
No. mortgage bonds	0				0	2	5 7
No. plots partial payments made							376
No. plots commitment fees paid							336
Mbabane CC (Nkwalini housing area)	Mid-Term (Oct. 2000)						
	Baseline	1998/99	1999/00	2000/01	20002/03	2004 EOP	
No. title/leases issued							0 0
No. leases fully paid, awaiting registration							0 0
No. mortgage bonds							0 0
No. plots partial payments made							0 0
No. plots commitment fees paid							371

Additional Annex 11. Municipal Plant and Equipment Procured under SUDP

Equipment Description	Mbabane City Council	Manzini City Council
12 m3 Refuse compactor truck	3	3
Tractor & trailer for refuse containers	2	--
Truck with container hoist	--	1
6m3 Containers	29	10
Water tanker	1	1
Wheeled loader	1	1
Landfill compactor	1	1
10m3 truck with 1.2t crane	2	2
Grader	1	1
Backhoe/loader	1	--
5t Vacuum tanker	1	--
5t Flat-bed truck	1	1

Additional Annex 12. SWSC Tariff Requests vs. Approvals

Year	Inflation %	Tariff Requested * %	Tariff Approved %	Implementation Date	Effective Tariff % (due to delay in approval)
1996/97	6.5	9	9	May 96	5.0
1997/98	7.2	15	15	July 97	11.2
1998/99	8.0	12	9.9	September 98	5.8
1999/2000	5.9	12	12	November 99	5.0
2000/01	7.3	7	7	April 2000	7.0
2001/02	7.5	10	10	July 01	7.5
2002/03	10.3	10	6.5	May 02	6.0
2003/04	7.5	10	6.5	May 03	6.0
2004/05	3.7	20	13	April 04	13
2005/06	4.1	6.5	6.5	April 05	6.5

* Tariff Request made for March of the respective year.

Additional Annex 13. Cost of Sewage Treatment Plants

The final financing of the two plants is summarized in the table below. The exact proportions of the cost that will be borne as a loan SWSC or as a grant, have obviously changed since the original Subsidiary Loan Agreements were drawn up at the start of the Project. During the course of the November 2004 Bank supervision mission, the main principles behind the original financing were discussed in detail between the Bank, MOF and SWSC. However, by project closing, negotiations between SWSC and MOF were still under way.

Description	Em.	US\$m. equivalent	%
a. Final as built costs	223.3	30.8	100
b. Payments from Loan (85%)	97.6	13.5	44
c. GOS payments to match Loan payments (15%)	14.6	2.0	7
Additional amount financed by GOS	111.0	15.3	49

Additional Annex 14. Institutional Strengthening Activities

Contract Description	Final Costs		Loan	Implementing Agency	Financing
	US\$	E			
Urban Government Policy		158,300	0	MHUD	USAID
Land Legislation & Building Code Rev		263,800	0	MHUD	DfID
Housing Policy Study		600,000	0	MHUD	GoS
Municipal Policing Study Tour			0	MbCC/ MzCC	GoS
Credit rating		165,000	85/15	MbCC	WB/GoS
Fiscal decentralization		494,114	100	MOF	WB/GoS
Gender & Land Issues Study		90,000	0	PCU	UNDP
Gender & Land Issues Study W/shop		10,000	0	PCU	GoS
TSU Main Contract	1,470,028	889,244	85/15	PCU	WB/GoS
Contract Addendum 3 & 4		356,591	85/15	PCU	WB/GoS
Financial Assistance to PCU		2,398,078	85/15	PCU	WB/GoS
TSS Main Contract & Addendum 1, 2 & 3		2,334,115	85/15	PCU	WB/GoS
Institutional options for peri urban areas		175,000			
Procurement training (1) - 3 trainees	8,900		85/15	PCU	WB/GoS
Procurement training (1) - 3 trainees	8,900		0	PCU	GoS
Procurement training (2)		10,000 t.b.c.			
Procurement training (3)		10,000 t.b.c.			
Reg round table/upgrading w/shop		24,276	85/15	PCU	WB/GoS
Risk & Liability - 16 trainees		7,980	0	PCU	GoS/IAs
Construction Law - 16 trainees		25,920	0	PCU	GoS/IAs
Project Management (1) -10 trainees		178,237	0	PCU	GoS/IAs
Project Management (2) - 16 trainees		189,000	0	PCU	GoS/IAs
Project Management (3) - 12 trainees		240,400	0	PCU	GoS/IAs
Project Management (4) - 16 trainees		189,000	0	PCU	GoS/IAs
Disbursement Training - 1 trainee		37,931	0	PCU	GoS
Advanced Project Assistant - 1 trainee		13,949	0	PCU	GoS
Project Mngmt in the Public Sector		16,050	0	MHUD	GoS
Project Mngmt best practices		32,249	0	PCU	GoS
Managing Development Projects		57,503	0	PCU	GoS
Policy & institutional reforms		5,791,436		PCU	
MHUD - policy formulation		422,100		PCU	
MHUD - Project Workshops		439,914	85/15	PCU	WB/GoS
MHUD - Degree Training		350,300		MHUD	DfID, USAID, AusAID
MHUD - Regional Workshops and Study Tour		376,663		MHUD	GoS
equipment for DRO, below)					
Deeds Registry Office - Deeds Examiner (financed by GOS)		n/a			GoS
Deeds Registry- Training Delivery		n/a			Gos
Deeds Registry Office (Imaging& Indexing)	60,070	890,186	85/15	DRO	BF
Deeds Registry Office Equipment (Computers)		95,335	90/10	DRO	WB/GoS
Deeds Registry Office Equipment (Server)		59,851	90/10	DRO	WB/GoS
Surveyor Gen's Office - Staff Training				SGO	DfID
Surveyor Gen's Office - Acquisition of Equip.					
Surveyor Gen's Office - Inter. Degree Tr.				SGO	DfID
Surveyor Gen's Office - Surveyors Fees		9,820	0	SGO	GoS
Equipment for Surveyor General		34,650	90/10	SGO	WB/GoS
		162,759	90/10	SGO	WB/GoS
		28,100	90/10	SGO	WB/GoS

Institutional Strengthening Activities (Continued)

Contract Description	Final Costs		Loan	Implementing Agency	Financing
Environmental Authority - Management Advisor		984,936		SEA	DfID
MZCC Community Liaison				MzCC	MzCC
MZCC Human Resource Rev		96,830		MzCC	GoS
MZCC Twinning				MzCC	
MBCC UDP Community Liaison				MbCC	MbCC
MBCC Human Resource Rev		96,830		MbCC	GoS
MBCC Twinning					
Training				MbCC	MbCC
Automation - A/C System				MbCC	MbCC
SNHB Policy and Institutional Reform					
Interim Training - Field Trip					
Interim Training Pack - Workshops					
Project Management Specialist		n/a		SNHB	UNDP
Business Admin Specialist		n/a			
Human Resource Advisor		n/a			
Housing Specialist		n/a			
Annual Training Delivery		n/a			
Plot Sales Planning Workshop		42,150	85/15	SNHB	WB/GoS
Financial Management Assistance to SNHB		115,440	85/15	SNHB	WB/GoS
SWSC Policy and Institutional Reform					
Annual Program - Needs Assessment					
Intermittent Specialists		1,656,824			
Financial Advisor (Full Time)					
Community Specialist (Part time)					
IT Specialist (Part time)					
Accountant (Part time)					
Corporate Planner (Part time)					
Overseas Secondments					
Personnel Officer (M. Sc - UK)					
Senior Accountant (Degree Course - UK)					
Accountant (ACCA Course - UK)					
Accounting & Project Planning					
Accounting & MIS Implementation/Training					
SEB -- Consultants, TA, Training, Supervision of Works					
GRAND TOTAL	1,547,898	20,620,861			

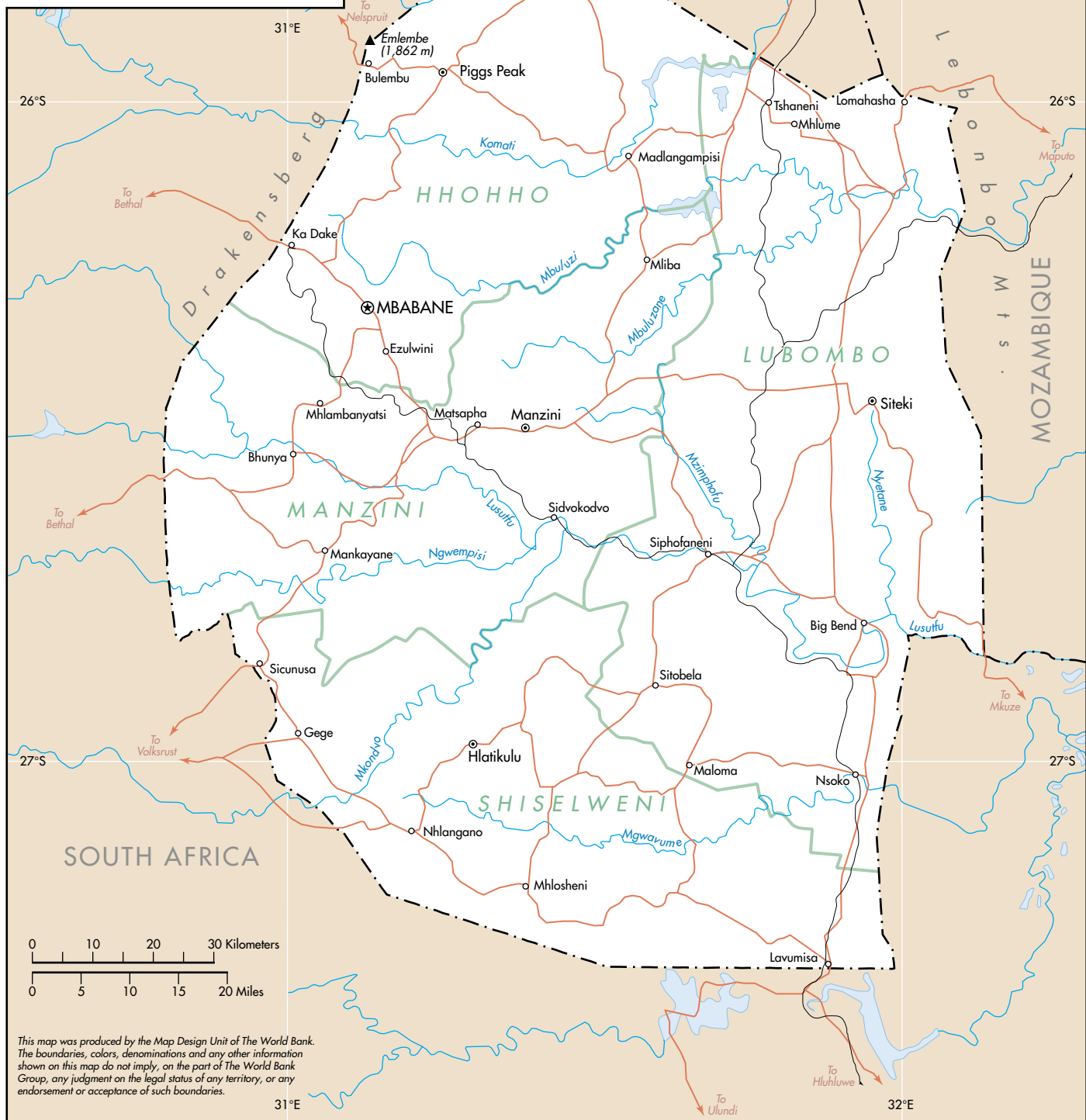
Additional Annex 15. Subsidiary Loan Repayments

Subsidiary Loan Repayments by Implementing Agencies (as at February 2, 2005)

Agency	Fees and Interest			Principal			Balance Outstanding (E m)
	Billed (E m)	Paid (E m)	Due (E m)	Billed (E m)	Paide (E m)	Due (E m)	
Manzini CC	1.53	1.49	0.045	1.74	1.55	0.19	0.24
Mbabane CC	2.47	2.36	0.12	1.73	1.60	0.13	0.25
SNHB	2	0.98	0.78	7.34	0.00	7.34	8.11
SWSC	10	7.19	3.04	10.82	1.20	9.62	12.66
Total	15.98	12.02	3.99	21.63	4.35	17.28	21.26

SWAZILAND

- SELECTED CITIES AND TOWNS
- ⊙ DISTRICT CAPITALS
- ⊕ NATIONAL CAPITAL
- RIVERS
- MAIN ROADS
- RAILROADS
- DISTRICT BOUNDARIES
- · - INTERNATIONAL BOUNDARIES



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