Department of Environment

16.1 Internal Control Unit (ICU)

The Environment Division of the Ministry spent Rs 131,398,877 and Rs 134,441,300 during the financial year 2006-07 on the capital and recurrent items of expenditure respectively. Moreover, it also collected some Rs 186.2 million in terms of environment protection fee.

Only two officers of the ICU were posted at the Environment Division to carry out internal audit work. Only routine checks on transactions relating to stores, cash office, transport and laboratory and Bell Village sub-office were carried out.

The nature and extent of audit work was inadequate. In like circumstances and where resources were limited, internal auditors did not focus on material and high risk transactions.

16.2 Environment Impact Assessment (EIA)

Applications for an EIA licence and Preliminary Environment Report (PER) are deposited at the Department of Environment by applicants.

The Department incurs expenses to process the applications such as publishing the notices in the press and other administration costs and they are met from the recurrent vote items of the Department.

The EPA makes provision for the taking of fees and levy of charges.

Presently, the Ministry does not charge a fee when an application is made for the EIA and PER.

16.3 Telephone bills – Rs 2,614,374

The Ministry and the Department of Environment made use of 55 cellular phones and 141 fixed line phones for 178 officers excluding manual workers and officers who were posted on sites of work.

An amount of Rs 2,930,000 was earmarked in the Recurrent Budget 2006-07 for the telephone bills of the Ministry and the Department of Environment.

A total amount of Rs 2,614,374 was paid during the financial year. It included Rs 1,838,930 spent on fixed line phones and amounts spent on fixed lines and phone cards were Rs 444,244 and Rs 331,200 respectively.
A number of fixed telephone lines was not being used and the Ministry had to pay Rs 62,169 for rental charges for period to 30 April 2007.

An examination of telephone bills showed that a total amount of Rs 662,729 was due since long and yet unsettled.

Although the Ministry has taken corrective measures to control the telephone expenses, it was again noted that in a number of cases, the telephone bills were still high.

### 16.4 Overtime - Rs 4,074,726

The overtime payments during the past four financial years are given in Table 16-1.

<table>
<thead>
<tr>
<th>Financial Years</th>
<th>Ministry of Environment (Rs)</th>
<th>Department of Environment (Rs)</th>
<th>Capital Vote Item (Rs)</th>
<th>Total (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>1,526,349</td>
<td>430,564</td>
<td>5,782,365</td>
<td>7,739,278</td>
</tr>
<tr>
<td>2004-05</td>
<td>1,597,891</td>
<td>430,670</td>
<td>7,785,392</td>
<td>9,813,953</td>
</tr>
<tr>
<td>2005-06</td>
<td>1,058,207</td>
<td>272,489</td>
<td>3,926,136</td>
<td>5,256,832</td>
</tr>
<tr>
<td>2006-07</td>
<td>865,474</td>
<td>251,725</td>
<td>2,957,527</td>
<td>4,074,726</td>
</tr>
</tbody>
</table>

A total of Rs 4,074,726 was paid as overtime during the financial year 2006-07. Payments of overtime were effected from both the recurrent and capital budgets of the Ministry. Though there was a reduction in the payment of overtime, it was again noted that overtime were performed regularly during the year by workers of the Living Environment Unit and at Head Office.

The Ministry also charged the Capital Vote Item – ‘Environment Management, Protection and Conservation’ with payment of overtime to staff of the Living Environment Unit.

At the Living Environment Unit, overtime was performed by inspectors, office attendants, drivers and manual workers and those of minor grades such as general workers, handymen, carpenters, and painters while at head office, overtime was regularly done by clerical officers, executive officers, finance officers and purchasing and supply officers.

The reasons given for justifying overtime comprised arranging the registry, computation of sick leave and end of year bonus, stocktaking and processing of purchasing requisitions, at end of financial year. Other officers performed overtime to process claims relating to overtime.

The number of days to perform overtime was determined by senior officers who were themselves being paid overtime to supervise the said works.
National Development Unit

16.5 Financial Impact of Delays in Project Implementation.

Over the years, I have reported on delays in project implementation. The causes of delay were inter-alia: modification of original design, inadequate resources deployed by Contractors on site, unavailability of and shortcomings in contract drawings and plans, Contractors awaiting instruction to proceed with works and adverse climatic conditions.

16.5.1 Additional Consultancy Fees

In April 2007, a Consultant claimed additional consultancy fees of some Rs 19.6 million for extended period of supervision due to delays in project implementation. The sum of Rs 19.6 million comprised Rs 8.1 million for delays in completion of projects awarded under an old contract of consultancy services from January 2002 to November 2004 and Rs 11.5 million for projects awarded under a new contract from December 2004 to December 2006.

Under the old contract, 45 projects were delayed with period ranging from 87 to 681 days including 35 projects over 200 days. Under the new contract, 84 projects were delayed with period varying from 15 days to 405 days, including 29 projects over 100 days.

16.5.2 Landscaping Works at Providence

The contract for landscaping works at Providence was awarded on 13 December 2004 for the sum of Rs 24.8 million. The contractual completion date was 13 October 2005 but was substantially completed on 22 September 2006. The total payments made on this contract amounted to Rs 19.5 million.

344 days of extension of time were granted to the Contractor out of which 245 days were attributed to delays by the NDU to give instruction to the Contractor to proceed with the various portions of works.

A sum of Rs 694,167 was paid on account of compensation for prolongation of the contract. The claim from the Contractor comprised mostly site overheads.

The NDU delayed in giving approval for the following: location of site boundaries, new layout for Mosque area, changes in design of new kiosk, boundary limits for new plot at temple area and additional asphalt works.

16.5.3 Drains at Canot

The contract for this project was first awarded in November 2002 for the sum of Rs 2.3 million. The contract was terminated in September 2003 due to poor workmanship of the Contractor. Some Rs 500,000 were paid. The contracts for drains and asphalt works were re-awarded to two different Contractors to whom respective payments of Rs 8 million and Rs 1.5 million were made. Variation works amounted to Rs 3.6 million.
The works were finally completed in December 2006 with total payments of some Rs 10.3 million.

This project, with an initial duration of six months was completed after four years. The delay occurred because of sub-standard works executed by a Contractor, additional works, failure to give timely approval for relocation of pipelines and delay to re-award contracts. These resulted in final contract value of more than four times the original figure.

**Conclusion**

Besides increased consultancy cost and additional claim from Contractors, delays may give rise to changes in user’s needs resulting in re-design of projects as well as disruption of cash flow of the NDU.

Several contracts were terminated because of delays and some were re-awarded at higher price due to time factor.

Again it is suggested that the NDU must ensure that projects are completed on time.

- Instruction/approval for works must be given on due time to avoid Contractor’s claim for additional payment.

- Projects must be allocated to Contractors who have adequate human and capital resources to execute projects. Past performance of the Contractors as well as the current workload are essential factors to consider.

- The performance bond which is a security for proper performance is normally set at 10 per cent of the contract value. Most of the time, the performance bond is not adequate to cover the cost of remaining works. The NDU should consider increasing the rate.

- Liquidated damages are applied when a Contractor fails to complete projects on time. The NDU should consider increasing the rate.

**16.6 Projects Abandoned/Curtailed due to Changes in Design and Poor Performance of Contractors.**

Some projects were abandoned/curtailed due to poor site survey at the design stage and Contractors deploying inadequate resources on sites.

Basic details such as topography of land, information relating to ownership of site, boundaries and other associated matters were often not taken into consideration during the design stage.

On the other hand, Contractors were awarded contracts under appropriate grades but could not complete projects due to inadequate resources and experience.

The consequences of abandoning these projects are as follows:
Some of these projects like urgent drain works did not wholly achieve the purpose intended. The works were only partly completed.

Cost of remaining works increases on re-award. In one case, it was reported that the remaining works would cost 35 to 65 per cent more compared to the original contract price.

16.6.1 Upgrading Works at Ruisseau Terre Rouge

The works order for the upgrading of Ruisseau Terre Rouge was issued on 7 June 2005 for the sum of Rs 22,899,826. The contractual completion date was 30 January 2006.

The works involved the removal of the gabion boxes, construction of the reinforced concrete channel and three culverts.

In December 2006, while the works were not yet completed, the Contractor had abandoned the site.

A sum of Rs 2.2 million was paid to the Contractor.

Project Design.

The works involved removal of upper gabion and construction of reinforced concrete channel on lower gabion. During the course of the works it was found that the upper gabion was resting on earth fill and not on gabion on each side of the stream. The design of the reinforcement channel was therefore modified. This brought the overall contract value to Rs 33,249,416 or a 45 per cent increase over original value.

Consequently, in order to contain costs within the original works order value of Rs 22.8 million, it was decided to reduce the stretch of the Ruisseau Terre Rouge.

For works of this nature, appropriate test should have been carried out to determine site condition. For instance, a trial pit could have revealed the non existence of lower gabion.

In order to avoid a 45 per cent increase in contract value the length of the upgrading works had to be reduced. Due to the inadequacy of the design, the objective of the improvement works as originally planned was not attained.

Performance of the Contractor.

During the course of the project, the Supervising Consultant reported that the performance of the Contractor was poor throughout the contract due to inadequate and inappropriate deployment of resources which led to overall poor progress of works and delays.

For instance, as of September 2006, some three months before abandonment of site, 70 metres of drain were constructed compared to 360 metres as planned.
Performance Report. Financial Regulations require that the Architect and Engineer responsible for a project to make an accurate report to the Central Tender Board (CTB) on the performance of the Contractor.

In this project, CTB has still not been informed of the poor performance of the Contractor.

Performance Bond The amount of performance bond is specified at 10 per cent of the value of each works order in the appendix to tender. In this project, the bond amounting to some Rs 2 million was not provided by the Contractor.

Though it is on the onus of the Contractor to obtain and provide the bond to the NDU, the latter must ensure that a bond is provided for each and every project.

Outstanding Works.

The Contractor left the site in December 2006 when some 30 per cent of the works were completed.

This project was considered as being urgent and as a result, works order was issued to a Contractor under Annual Drains Works for 2004-05 instead of launching an open tender.

After more than two years since contract was awarded, this urgent project has still not been completed and is awaiting re-award.

16.6.2 Rehabilitation of Nellan Drain and Construction of New Lateral Drains.

The contract for the rehabilitation of Nellan Drain and construction of new lateral drains was awarded for the sum of Rs 48,246,985 on 10 January 2005.

The contractual completion date was 6 August 2006 and was revised to May 2007.

The project dated back to 2003 when a Local Authority had commissioned the topographical survey of the drain. The NDU was then requested to take on the project of rehabilitation of the drain.

As of August 2007, a sum of Rs 21.9 million was paid to the Contractor.

Reductions in Scope of Work

The cost of the project was revised to some Rs 26.1 million due to reduction in the scope of works. This represented a 45 per cent decrease in contract value. The reasons for the reductions are as follows:

- The scope of work was reduced by some Rs 9 million due to difficulties to obtain Way-leaves. The Local Authority started procedures for obtaining way-leaves from inhabitants in May 2006 while the project started in February 2005. 25 per cent of the drain had properties either built over the drain or up to the edges of it.
Illegal discharges of wastewater into the existing drain resulted in omission of works of some Rs 2.6 million.

The widening of the drain along Avenue Berthaud valued at some Rs 2.2 million was also deleted due to delays to obtain CWA’s agreement to the proposed water main diversion and materials to effect it.

Some 112 metres of drain downstream at Rotin lane with a value of Rs 3.3 million were not constructed due to reinforcement shortage.

A decrease of 45 per cent is significant. The problems of way leaves and site clearances should have been properly sorted out when determining the scope of works. Inaccurate site survey may have a substantial impact on the contract value.

The substantial reduction in scope of works might have given rise to claim for loss and expense from the Contractor.

By reducing the scope of works significantly, the planned objective of this drain works was not achieved.

**Performance of the Contractor.**

The Consultant in the project stated that the performance of the Contractor was poor due to inadequate senior management in his organisation and his lack of experience in this type of work.

The Contractor completed some 34 per cent of the works by the time of the original completion date, August 2006.

The completion date was first extended to February 2007 and subsequently to May 2007.

**Outstanding Works**

The cost of remaining works was likely to increase on re-award. The Consultant reported that the remaining works would cost 35 to 65 per cent more than the original contract price.

**16.6.3 Upgrading of Football Ground and Construction of Cloakroom at Bois Cheri.**

The contract for the construction of a football ground and a cloakroom at Bois Cheri was awarded in September 2004 for the sum of Rs 10,144,322. The contractual completion date was 20 June 2005. As of October 2006, total payments amounted to Rs 6.2 million.

During the course of the project, the Consultant pointed out that the Contractor’s performance was unsatisfactory due to poor management and inadequate manpower and plant deployment on site. As of November 2006, the project was delayed by 17 months, of which only seven months related to bad weather and additional works. The contract was terminated in December 2006.

The contract for the remaining works was re-awarded on 30 March 2007 for Rs 1,399,685.
Conclusion

Site Design.

A proper design at initial stage of a project is essential for several reasons. It is used as a basis for preparation of scope of works, cost estimates as well as bill of quantities.

Variations works in a contract by 45 per cent indicated inadequate site surveys. Site clearances, way-leaves are basic matters to deal with during design stage.

The NDU must ensure execution of projects on time and within cost through adequate site surveys and proper design.

Resources Deployed by Contractors.

In the past, several contracts were terminated due to delays resulting from inadequate resources deployed in the sites. Grading of Contractors depend on resources available such as manpower, equipment and finance. Inadequate resources may mean that the Contractors may be handling too many projects simultaneously.

Before awarding new contracts, total value of existing contracts being handled by the Contractor must be considered to ensure at least that adequate resources could be deployed on sites.

At the same instance, contracts for drain works should be awarded to Contractors having the know-how in such types of works. The Consultant revealed in the above mentioned projects that the Contractors had inappropriate resources on site and inexperienced personnel in this type of work.

Poor performance of Contractors must be reported to both the CTB and the Construction Industry Development Board (body responsible for registration of Contractors). This may necessitate review of the grade of the Contractor.

When proper designs are not carried out and contracts are continued to be awarded to Contractors having inadequate resources and know-how, revision in scope of works, delays and termination of contracts will be a recurrent feature.

16.7 Impact on Projects after winding up of the Development Works Corporation (DWC).

On winding up of the DWC, the latter was handling four projects at the NDU with total contract value of Rs 149 million as shown in Table 16-2.
Table 16-2  Projects handled by the DWC

<table>
<thead>
<tr>
<th>Projects</th>
<th>Project Value (Rs m)</th>
<th>Amount Paid (Rs m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction of 13 Community Centres around the Island</td>
<td>101.8</td>
<td>93.8</td>
</tr>
<tr>
<td>Building works at Market Fair, Rose-Hill</td>
<td>29.9</td>
<td>13.2</td>
</tr>
<tr>
<td>Construction of Football Ground at Mont Ida</td>
<td>12.3</td>
<td>8.1</td>
</tr>
<tr>
<td>Landscaping and Embellishment Works at Chebel</td>
<td>5.0</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>149.0</strong></td>
<td><strong>117.6</strong></td>
</tr>
</tbody>
</table>

The DWC ceased works at the different sites during July/August 2006.

I am of the view that the manner in which the closure of the DWC was determined was not properly planned and this may result in Government incurring higher expenditure for completing the outstanding projects, let alone the longer time that these may take.

16.7.1  Percentage of Completion of Projects.

Out of the 13 Community Centres, two were completed and the others were 80 to 98 per cent complete.

Landscaping and Embellishment Works at Chebel and Construction of Football Ground at Mont Ida were about 50 and 60 per cent complete respectively. The Building works at Market Fair, Rose-Hill were about 60 per cent complete.

It was already known that the DWC would cease its business and would leave the construction sites. Government could have allowed the Contractor to complete priority projects or at least, the works at the Community Centres which were near completion, taking into consideration possible costs associated with the uncompleted sites and those involved with re-award, as mentioned below.

16.7.2  Associated Cost Involved with Uncompleted Sites.

- The Community Centres were near completion. However, because of the cessation of works, security services had to be provided pending re-award. At date of Audit, in August 2007, a sum of Rs 600,300 has already been paid for the services for the period February to April 2007 and some Rs 800,400 remained outstanding for the period May to August 2007.

- The cessation of works has lead to the degradation of the already built structures as evidenced by site visits. Wooden doors and furniture in five Community Centres were deteriorated by fungus. Extra cost will be needed for their reinstatement.
About 50 per cent of the iron sheets installed on the roof of the Wooton Community Centre had been damaged.

At Mont Ida Football Ground, after the closure of the DWC, the site was left in an abandoned state and was invaded with dense wild grass. The masonry structure/block wall which had been erected on the three sides of the pitch was barely visible and was invaded by creepers. Additional cost will have to be incurred on site clearance on re-award.

16.7.3 Re-award of Projects.

- Before re-award of projects, the Consultant has to carry out a new survey in order to determine the scope of works, to work out cost estimates and to prepare tender documents. These procedures, together with tender evaluation will entail additional consultancy fees.

At the NDU, Consultancy fees of 4.6 and 6.9 per cent of project value were paid.

- As funds are not earmarked project wise at the NDU, additional funds will be needed to complete the remaining works.

- Carrying out new survey, drawing new scope of works, preparing new set of tender documents and launching of bids takes time. As a result, the contract price may increase on re-award.

- Furthermore, with lapse of time, projects that were previously designed may not suit the present needs and may require new design resulting in additional cost.

Conclusion

I am of the view that before closure of the DWC, Government should have carried out a cost benefit analysis to ascertain whether it would have been more beneficial to complete the projects before closure or to invite for new tenders for the remaining works.

16.8 Project Monitoring

For proper monitoring of projects, it is essential to maintain basic information on status of projects including date of award, original completion date, variation works, revised contract values, cumulative payments, actual completion date, defects liability period, progress of work, consultancy fee paid.

These information are essential to ensure projects are completed within time and cost. Absence of proper information results in inadequate monitoring, delays on completion of projects, late payment of contractor’s claims and incorrect computation of consultancy fees. Indeed, a Consultant was paid fees for services during the period January 2002 to November 2004 based on original project values in the unavailability of revised project values. The
original project values amounted to Rs 2.6 billion on which consultancy fees of Rs 54.1 million were paid.
During 2006-07, after more than two years of the termination of the consultancy contract in November 2004, the NDU worked out the revised values of the projects and the related consultancy fees amounting to Rs 2.4 billion and Rs 49.8 million respectively. Hence consultancy fees were overpaid by Rs 4.2 million.

Ministry’s Reply

Measures are being taken to keep records of projects being implemented and to keep them up to date.

I would like to point out that a Project Management Programme has been recently developed. The Programme is being run on a trial basis. As soon as we are satisfied that it meets our need, measures will be taken by relevant sections to feed inputs in respect of projects on the Programme. It is considered that the Programme will be an important tool to facilitate monitoring of projects and to ensure timely execution of projects.

Conclusion

The NDU prepares progress reports on projects as from July 2007. These reports are incomplete and do not contain at least all the above mentioned information. It must review the contents and format of the progress report with a view to include all the information necessary for proper monitoring of projects.

16.9 Consultancy Fees for Design of Projects.

At Paragraph 10.1 of my 2005-06 Audit Report, I had reported on 614 projects for a sum of Rs 2.1 billion already designed, but not yet awarded as of 30 June 2006. Consultancy fees for design amounting to Rs 20.6 million were paid on these projects.

During the year ended 30 June 2007, only 80 projects with project value of Rs 117 million were awarded.

These projects have now been included in the development programme of the NDU in the current and next financial year.

16.10 Poor Performance of Contractors.

At Paragraph 10.2 of the 2005-06 Audit Report, I had reported on delays on projects.

- Landscaping and Embellishment works at Chebel sports complex have not yet been completed as of September 2007 following winding up of the DWC. It was due for completion in November 2004.
- Construction of Community Centres. The contractual completion date was 31 March 2005. Only two out of 13 was completed as of 30 September 2007. The uncompleted projects are awaiting re-award following winding up of the DWC.

- Construction of Cloakroom at Dubreuil. The contractual completion date was 23 January 2005. The project was not yet completed as of September 2007. A Local Authority had submitted quotation of Rs 214,775 to make good the remaining works.

- Construction of Cloakroom, Kiosk and Boulodrome at Robinson. The contract for this project was terminated in April 2005. As of September 2007, contract for kiosk and boulodrome have not yet been re-awarded. The project was due for completion in January 2005.

In respect of construction of cloakroom at Robinson, the NDU, in June 2007, proposed to a Local Authority to convert the space into a green area because of numerous problems such as encroachment from residents, presence of CWA pipes and complaints from inhabitants.

A sum of Rs 120,772 was paid for preliminary works at the cloakroom.