29.1 Coastal Protection Works at Riviere des Galets

29.1.1 Introduction.

A coastal stretch at Riviere des Galets was particularly at risk of tidal surges due to the absence of a proper reef system and had suffered severe coastal erosion during the past decade. As a protection against beach erosion, in 1996, gabions were placed and in 2003, some rehabilitation works were undertaken. In May 2007, this region was severely affected by a high wave and tidal surge. Some 20 houses were flooded and damages were caused to infrastructures, posing a serious threat to the inhabitants.

An inter Ministerial Technical Committee set up, thereafter, by the Ministry recognised that the long term solution to the problem of tidal surge would be the placement of a properly designed breakwater in the sea and its implementation would be very costly. The Committee also found that relocation of the inhabitants at risk remained the most appropriate solution from a security and safety perspective. This option might take some two to three years to materialise given the complexity of the exercise.

Pending implementation of these measures and in view of vulnerability of the site and its exposure to strong tidal waves of cyclones, anticyclone and tsunami which might occur at any time, the Committee recommended a combination of interim measures. Government approval was sought and received in September 2007 for the proposed project which would to some extent protect the area at risk against strong and high wave but not necessarily during “extreme events”. Proposed works were estimated to cost some Rs 10 million.

29.1.2 Scope of Works and Proposed Implementation Schedule.

The scope of works to be carried out along approximately 435 metres of shoreline at Riviere des Galets consisted:

- Removal and carting away of damaged gabions
- Supply and laying of new gabions complete with geo-textiles
- Construction of a stone barrier wall between the gabion line and the property boundaries
- Landscaping and turfing

Government was informed of the proposed implementation schedule for the project, that is, tenders be launched in September 2007, contract be awarded in November 2007 and works to start in January 2008 and be completed in July 2008.
29.1.3 Tender Procedures.

In November 2007, the Ministry sought the approval of the Central Tender Board (CTB) for the launching of the tender for the project estimated to cost Rs 10 million. Tenders were launched, through open advertised bidding, on 10 December 2007 and local Contractors having experience in coastal protection works were invited to bid. At closing date, 30 January 2008, five tenders were received. The project was already behind the proposed implementation schedule by some three months.

29.1.4 Evaluation Committee Report.

In March 2008, tenders received were evaluated by an Evaluation Committee which was set up by the Central Procurement Board (CPB). Two tenders were found non responsive and the other three tenders were considered responsive subject to certain information to be requested from the bidders through clarification letters.

The Evaluation Committee observed in its report that prices quoted by the three bidders were on the high side compared to the Ministry’s estimated cost for the project. The Evaluation Committee therefore recommended the following options for consideration:

Option 1: The client may consider re-tendering or resorting to alternate procurement procedures since the three selected tenders were much higher than the client’s estimate of Rs 10 million.

Option 2: Request for clarifications from three bidders.

The Committee stated that decision with respect to Option 1 rested with the Ministry and that regarding Option 2, it might be adopted subject to the conditions that prior to making a recommendation for an award, clarifications should be sought from the three bidders.

29.1.5 Award of Contract.

On 31 March 2008, after considering the Evaluation Committee report, the CPB agreed to their recommendation for a fresh tender exercise (Option 1) with updated estimates. However, on 14 April 2008, the Ministry requested the CPB to consider proceeding with Option 2 of the Evaluation Report for the following reasons:

➢ The urgency to implement the project.

➢ It was difficult to make exact estimates because of the special nature of the works.

➢ There has been considerable increase in the cost of materials and other associated costs during the past months. Taking into consideration the unexpected drastic increases in the price of materials the estimated cost of works as of 31 March 2008 would be Rs 18,805,375.

➢ Re-launching of tenders would not only further delay the project but the probability that the prices of responsive bids would certainly be much higher.
On 16 May 2008, the CPB approved the award of the contract for the cost of Rs 18,934,750. The letter of award was issued on 9 June 2008 to the lowest of the three “responsive bidders”. Contract was awarded with a delay of some six months over the proposed implementation date of November 2007.

It was noted that within a period of only some five months, the Ministry revised its estimates of the Project Cost from Rs 10 million to Rs 18.8 million. The awarded contract value of Rs 18.9 million represented an increase of some 89 per cent as compared to the initial estimated cost of the project.

**29.1.6 Payments to Contractor.**

As of March 2010, payments totalling Rs 19,063,471 were made to the Contractor. An amount of Rs 1,149,843 was paid based on the final payment certificate issued by the Ministry certifying that value of works executed amounted to Rs 19,063,471. The value of works certified was in excess of the contract value by Rs 128,721.

**29.1.7 Completion of Works and Snag List.**

Works, which were scheduled to be completed by 9 January 2009, were certified by the Ministry as substantially completed on 19 December 2008 and defects liability period would end on 19 December 2009.

During a site visit effected on 21 November 2008 by the Integrated Coastal Zone Management (ICZM) Division of MOE, several problems were noted in the works carried out at Riviere des Galets. On 10 December 2008, these issues were brought to the attention of officers of the Living Environment Unit (LEU), who were monitoring the works, for inclusion in the snag list for the project:

- Wears and tears were noted in some lower mattresses. These had to be repaired and boulders be placed against the degraded mattresses.

- At several locations, gabion boxes were not properly filled by spalls and the filled spalls were not to the required size specifications (i.e. too small in size). Filling of gabion boxes had to be re-effected to the size and level required.

- Gabions boxes laid above the ground surface were found open at a number of locations and needed to be tied properly.

- The two additional openings made in the defense wall above the western part needed to be constructed to the required norm and specifications. The two newly-made wall openings needed to be “staggered” as per specifications to act as a proper protection/defense against wave attack and water ingress.

The Contractor who was requested to take corrective action, later informed the Ministry that snag works had been attended to and the whole of the works had been substantially completed on 19 December 2008. The Contractor requested for the issue of the Taking over Certificate. On 23 December 2008, an officer of LEU stated that during the site visit, small
corrective works on gabions needed to be attended to and that Taking over Certificate may be issued. He added that further inspections would be needed to ascertain that the snags had been completed and that these might be carried out early the following year.

It was observed that:

- The last notes of meeting seen related to the site meeting by Officers of LEU and Contractor held on 7 November 2008. Hence, details of progress of works on site, after that date was not available.

- Notes of meeting of site visits, if any, effected by the officers of LEU before the issue of the Payment Certificates Nos. 4, 5 (pre final) and 6 (final) certifying works up to 30 November 2008, 30 January 2009 and 23 February 2010 for the amount of Rs 2,760,117, Rs 3,374,174 and Rs 1,149,843, respectively, were not seen. It was therefore not known whether proper monitoring of progress of works was done before issue of these certificates.

- No list of outstanding works was seen drawn by the LEU at pre Final stage of the works. Issues raised by the ICZM Division in December 2008 were also not reported upon.

- There was no indication that inspections were carried out by the Ministry at the beginning of year 2009, as proposed by the LEU when recommending the release of the Taking over Certificate, to ascertain that the snags had been taken care of by the Contractor. It could therefore not be ascertained whether corrective actions in respect of the observations made by the ICZM Division were carried out by the Contractor.

**Ministry’s Comments**

Regular monitoring of the gabion works were undertaken by the Officers of the Department of Environment and the LEU. It was ascertained that all remedial actions were taken before releasing the final payment to the Contractor as substantiated by photographs.