

## **Shillong Tour Report**

### **3<sup>rd</sup> July to 6<sup>th</sup> July 2013**

A visit was made to Shillong by the undersigned, Sh. P. Kapur, Team Leader, Sh. A.K. Sharma, SWM Expert and Sh. S.S. Narula, WS & Sew Expert. The objectives of the visit were:

- To review the progress of Tr-I project for construction of landfill site at Marten.
- To discuss the proposal for cost variation of Tr-I project due to design changes and increase in the capacity of landfill.
- To discuss the DPR for Ph-II of the extension of landfill site at Marten.
- To discuss the concept report for Sewerage Network for the core area (Zone-I) as a precursor to the DPR for Tr-III.

While the detailed comments are under preparation by the respective experts, given below are the highlights of the team's observations:

1. **Progress of Construction of landfill site at Marten (Tr-I):** The project, which was sanctioned in 2009-10, could start only in 2012 due to issues with forest clearance. The construction is scheduled for completion by October 2013. However, work has been very slow and the contractor despite promises has not been able to progress the work satisfactorily. We observed that since our last visit about 2-1/2 months ago; there has hardly been any progress. SIPMIU is exasperated and has decided to take action. Cancelling the contract mid-way and rebidding will be very messy. Hence a competent sub-contractor has been identified who is agreeable to work with the main contractor and finish the work. SIPMIU has also made design changes to the works by way of improving the design of the retaining wall and to increase the holding capacity of the landfill by over 100% (26000 cum increased to 54225 cum). Since the quantity variation is more than 25% of the BOQ in the contract, the extra quantity is to be paid as per latest rates. Based on this, SIPMIU has prepared a cost variation proposal, where the revised cost is calculated at Rs 6.44 cr against the original cost of Rs 3.07 cr. This cost variation, after finalization will need to be authorized and built into Tr-I contingencies. The sub-contractor will commence work only after the cost variation is officially agreed and hence this needs urgent action by SIPMIU, MoUD and thereafter by ADB. The cost estimate was discussed with DSMC and others at Shillong and certain clarifications are awaited before the amount can be finalized and recommended.
2. **Review of DPR for extension of Marten Landfill Site (Phase-II):** The SIPMIU has also prepared a proposal for extension of the existing landfill facility in the adjoining land so as to increase the area from current 6500 sqm to 15000 sqm. This has been done to increase the life of the current landfill site and is in line with the suggestion of CPHEEO and PMMC. However, the suggestion to extend was given on the assumption that the SIPMIU will simultaneously prepare a proposal to reduce the inert to be disposed off in the landfill site from the estimated 50% to 5%-10% and the life of the site would be 8-10 yrs. However it was observed that the DPR has been prepared on the assumption that the inert to be disposed in the landfill in the near term would continue to be 50% of the total

SW produced. On this basis the life of the new facility has been estimated at only about 3 yrs. On the other hand the cost estimates for the construction of this facility (Phase-II) has increased from Rs 9 crores to Rs 16 crores on account of increased excavation to increase volumetric capacity and due to cost escalation.

**Discussion:** In view of the facts presented above, it is not advisable to spend Rs 16 cr to develop a Sanitary landfill facility with a life of only 3 years. It is necessary that SMB and SIPMIU improve the segregation of waste, the operation of the composting plant, and find alternate uses for plastic and construction waste and thereby reduce the inert to 5-10% of the waste produced. A landfill site with a life of only 3 yrs that too in a place where the land is extremely scarce is a waste of a precious resource. Further if indeed nothing can be done to reduce the waste to be disposed in the landfill, then the money and resources should be diverted to the long term landfill site in New Shillong, which is large enough to have a life of 15 years or more. Hence, the State Government may expedite EC clearance of the new site and thereafter push for the clearance of its DPR.

3. **Concept Report for Sewerage:** As part of preparatory work for Tranche-III, SIPMIU Shillong had sent us a concept report. The same was discussed together with PMMC's and CPHEEO's comments.

a. **Overall Concept:** In brief the proposal is to cover the SMB and surrounding area, which is the densely populated core area, with sewerage facility. However, due to non-availability of land for location of a single 'Sewerage Treatment Plant' (STP), the zone has been sub-divided into 7 sub-zones with separate STPs varying in capacity from 1.5 MLD to 12 MLD. It was our observation that both the capital cost and O&M cost of so many STPs will be uneconomical. During discussions it transpired that while SIPMIU agreed that the concept was not economical, unwillingness of the communities to allow SIPMIU to locate the STP at the location of natural drainage (Mahawali) i.e. where just one or at most two STPs would be required was the main reason for the subzone approach. The communities in turn were unwilling to let the STP be located close to their dwellings in view of their apprehensions that the STP will foul smell and untreated waste will be discharged into watercourse close to their habitation. The issue is one of lack of credibility of the assurances of state government to the community. State Government needs to engage with the communities and remove their apprehensions, if necessary by putting up a small pilot demonstration unit rather than opt for an unviable scheme.

b. **Cost estimates:** The cost estimate of the sewerage network prepared by SIPMIU/DSMC both by way of laying of sewer lines and for setting up of STPs is prohibitively high. For example their cost for setting up a 2.5 MLD STP is coming to Rs 7.5 cr per MLD vs the cost in Aizawl of Rs 1.8cr per MLD. Similarly, the cost of laying of sewer line has been worked out at Rs 15000 per meter against the cost in Aizawl at Rs 7000 per meter. A number of assumptions require checking and SIPMIU/DSMC has been advised to re-examine the assumptions made and reduce

the cost estimates. It is difficult to understand such a large difference in the costing of similar project in nearly similar geographical and topographical conditions.

- c. **Proposal to fund the internal modifications within the house to connect to sewerage:** As per feedback from public consultations carried out, SIPMIU has proposed that internal house modifications should be funded initially (as a loan to the house owners) to encourage the people to connect. The loan could be recovered in installments in subsequent billings. Although this proposal is unconventional as normally sewerage connection only up to the house is a part of the project, it may be considered in view of the strong public feedback. The loan as recovered, could go to a revolving fund for financing of future O&M.

#### **Issues for discussion and decision:**

The observations above raise several issues for discussion and decision of MoUD. These are:

- a. **Approval of the cost variation proposal for the Tr-I project of landfill site:** Since this project is already under execution and the cost variation is in accordance with the contract conditions, the variation may be approved subject to submission of revised estimate based on observations made on cost of earth disposal etc.
- b. **Approval of the DPR for Phase-II comprising of extension of landfill site under Tr-I:** It is not recommended to approve a proposal of Rs 16 cr for a project with a life of only 3 years against requirement of 15 yrs life or more. The main reason for less life is because it is assumed that 50% of the SW will be dumped in the landfill site. It was recommended by CPHEEO that this should not be more than 10%, which is possible if (a) the compost plant is run regularly and (b) proper segregation of waste is instituted. State Government may be advised to instead concentrate on the long-term landfill site identified by them and expedite its EC clearance, which is pending for public hearing.
- c. **Concept/approach for sewerage in the core area for Tr-III:** While the project per se may be supported, the current approach does not seem viable. A large number of STP plants are proposed to service a small area because of unwillingness of local communities to allow locating STPs near their habitats. The communities need to be convinced. If a pilot plant is necessary to allay the apprehensions of the communities, the same may be supported (if possible in Tr-II itself).
- d. **Cost estimates for Sewerage Network and STP:** As mentioned above, SIPMIU and DSMC need to re-examine the cost assumptions as the estimates prepared by them are grossly out of line with cost approved (and contracted) in Aizawl as follows:

	Aizawl	Shillong
Sewerage network	Rs 7000/m	Rs 15000/m
STP	Rs 1.8 cr/MLD	Rs 7.5 cr/MLD

Revised cost estimates need to be made. DSMC may consult with the PPMC and study the Aizawl cost and assumptions.

If approved, the comments may be shared with CPHEEO and their views may also be obtained. Submitted for directions and advice.

(By P. Kapur)