Chapter III

Audit of Transactions

Audit of transactions of the Government Departments, their field formations as well as that of the autonomous bodies brought out instances of lapses in management of resources and failures in the observance of the norms of regularity, propriety and economy. These have been presented in the succeeding paragraphs under broad objective heads.

Urban Development Department

Mumbai Metropolitan Region Development Authority

3.1 Implementation of Monorail Project in Mumbai

3.1.1 Introduction

The monorail project was opened for public in Mumbai in February 2014. The Mumbai Metropolitan Region Development Authority (MMRDA) is the system administrator for the project. The monorail was conceived in September 2007 in view of its ability to maneouvre through crowded and narrow congested areas and to ease the increasing traffic congestion and supplement various mass transit systems. The monorail runs on elevated concrete guideway structure.

The project was awarded (November 2008) to a consortium of Larsen & Toubro of India and Scomi Engineering of Malaysia (LTSE) on Design, Built, Operate and Maintain model at a total cost ₹ 2,716 crore (including taxes) for a stretch of 19.54 km. The project was to be implemented in two phases[1] and completed in 30 months[2] by May 2011. As of September 2014, an expenditure of ₹ 1,923.19 crore has been incurred on the project.

Audit examined the monorail project in MMRDA between March 2014 and August 2014. The replies furnished by MMRDA on the audit findings have been incorporated at suitable places. The audit findings are discussed in the succeeding paragraphs.

3.1.2 Audit findings

3.1.2.1 Inadequate legal framework for notification of monorail

The Mumbai monorail project, in the absence of any specific Act, was notified by Government of Maharashtra (GoM) in November 2008 under The Indian Tramways Act, 1886 (ITA) though ITA did not have any provision for construction and use of public transport at elevated level. The ITA under

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1 Phase I: Wadala to Chembur (8.94 km); Phase II: Sant Gadge Maharaj Chowk to Wadala (10.60 km);

2 Phase I: 24 months by November 2010; Phase II: Further six months by May 2011 (Total 30 months)

Section 12 envisages safety certification only by an independent engineer appointed by the State Government. The Tramway because of its low speed does not require an elaborate safety certification prevalent in Indian Railways. More importantly, the issues of accountability or financial liabilities arising out of loss occasioned by the death or bodily injury to any person due to any unforeseen reason(s) are not addressed in the ITA.

The Metropolitan Commissioner (MC) stated (December 2014) that the construction and operations of monorail system was closest to ITA and was also under the jurisdiction of the State Government. The MC added that GoM has now recommended amending the ITA suitably to include monorail also.

3.1.2.2 Feasibility of project and contract finalisation

Scrutiny of records relating to project feasibility and selection of contractor revealed the following:

- The techno-economic and financial feasibility study and the bid process management for the project was awarded (January 2008) to Rail India Technical and Economic Service (RITES) without inviting global tender.
- RITES gave an initial estimate of ₹ 1,539 crore (including taxes) in March 2008 based on which, tenders for monorail project were invited in May 2008. After opening the financial bid of LTSE[3] (the only technically compliant bidder) on 11 August 2008, the rates of LTSE at ₹ 2,970 crore (including taxes) was found to be 93 *per cent* higher than the initial estimates of RITES. At this stage, instead of cancelling the tendering process, MMRDA requested (26 August 2008) RITES to prepare a revised estimate by updating the prices from March 2008 to June 2008 level. Accordingly, RITES submitted (10 September 2008) a revised estimate of ₹ 1,777 crore (including taxes) but opined that the rates quoted by LTSE were unreasonable and heavily loaded by ₹ 1,210 crore. RITES therefore, recommended price negotiations with LTSE.
- MMRDA brought in another consultant[4] (Louis Berger Group Inc) on 12 September 2008 to reassess the cost estimates of the project, arguing that RITES did not consider the prevailing rates of similar civil works under Mumbai conditions in its revised estimates of ₹ 1,777 crore. LBG estimated the cost of the project at ₹ 2,329 crore (including taxes), which was treated as benchmark by the bid evaluation committee of MMRDA for negotiating prices with LTSE. After price negotiations (October 2008), the final offer of LTSE at ₹ 2,716 crore (including taxes) was accepted by MMRDA.

Hiring of second consultant, after opening of the price bid, was irregular because the consultant was aware of the prices offered by LTSE and his

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[3] Of the three pre-qualified bidders to whom request for proposals were issued, only two bidders responded (LTSE and Reliance Infrastructure-Hitachi) with their technical and financial bids. The third bidder Bombardier Transportation (Holding), USA did not respond to request for proposal

[4] Engaged for Mumbai Metro Line-1

assessment of the project cost at that stage might have suffered from confirmation bias. Incidentally, LBG did not visit the proposed corridor or evaluated the specific site conditions to determine the cost estimates for the project. The estimates were prepared by the second consultant in two weeks time (*vis-à-vis* four months[5] taken by RITES before submitting the initial estimates) and based purely on the basis of assumptions made upon a desk review of the technical proposal of one of the participating bidders (LTSE and Reliance Infrastructure-Hitachi). The final contract amount, even after increase of estimates by RITES, was higher by ₹ 939 crore[6] and by ₹ 387 crore[7] with reference to the estimates worked out by the second consultant.

The MMRDA stated that there was no benchmark for costs as monorail was being constructed for the first time in India. It was only in the fitness of things that another opinion from a reputed consultant was obtained. Negotiations with LTSE yielded a reduction of more than ₹ 200 crore with reference to the approximate cost arrived at by the second consultant. The MMRDA added that the bid evaluation committee had considered all the options including retendering but there was no guarantee that retendering would have led to achievement of competitive prices. Besides, there was risk of delays in project implementation.

The contention of MMRDA that retendering may not have led to achievement of competitive rates, is only an assumption. The sequence of events clearly indicated that the appointment of consultants was not transparent and the benchmark price arrived at after opening of the price bid might have suffered from confirmation bias.

3.1.2.3 Selection of project management consultant

The Project Management Consultant (PMC) was responsible for reviewing the designs prepared by the selected contractor and supervise project execution as per best industry practices. The project management consultancy was awarded (November 2008) to a consortium[8] led by SOWIL (India) for a fee of ₹ 35.52 crore. The second lowest bidder was a consortium led by LBG. The PMC contract was valid for 39 months (February 2012).

Audit observed that the PMC contract was rescinded (April 2009) by MMRDA within six months of commencement on the grounds that the PMC had concealed the fact that they had earlier been blacklisted (September 2008) by National Highway Authority of India and their claims regarding proficiency of their expatriate key professionals in English language were false. Despite these misrepresentations, MMRDA allowed the PMC to exit without punitive action. At this stage, instead of inviting fresh tenders, MMRDA appointed (May 2009) the same LBG (who had earlier assessed the

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5 Letter of Intent was issued to RITES in November 2007 (December 2007 to March 2008)

6 ₹ 2,716 crore - ₹ 1,777 crore = ₹ 939 crore

7 ₹ 2,716 crore - ₹ 2,329 crore = ₹ 387 crore

8 China Railway Eryuan Engineering Group Co. Ltd (China), Sowil Ltd. (India), Chongqing Monorail Transit Engineering Co. Ltd. (China) and Team One Architect (India)

project cost) as PMC on the ground that it was the second lowest bidder in the original bidding, besides SOWIL led consortium. However, it is pertinent to note that LBG as the new PMC was a single entity and not the consortium which had initially participated in the first round of bidding. The technical competency of the key professionals proposed by LBG for the consultancy work was also not freshly evaluated by MMRDA though there was a change in key professionals.

The new PMC contract was awarded (June 2009) to LBG at a fee of ₹ 35.12 crore valid up to February 2012, which was further extended from time to time up to December 2015.

3.1.2.4 Design issues

Audit compared the various standards and specifications for civil works mentioned in the contract documents/technical proposal of LTSE with the design documents approved by MMRDA and PMC. The comparison revealed many inadequacies which are discussed below.

Guideway design not conforming to axle load of the rolling stock car

Axle load is an important design consideration in the engineering of roadways and railways. For instance, a two-axle vehicle weighing 30 tonnes would have an axle load of approximately 15 tonnes depending on how the weight was distributed. Exceeding the maximum axle load may cause damage to the roadways or rail tracks.

The monorail contract stipulated that the guideway should be designed to bear the maximum axle load of the rolling stock car[9] (RSC). Audit observed that LTSE designed and constructed the guideway for an axle load of 11.72 tonnes against the load of 12.35 tonnes indicated in their technical proposal. While, the RSC actually supplied by LTSE had an axle load of 13.27 tonnes. In order to revalidate the design, MMRDA appointed a German consultant[10] in June 2011 for validating the already approved designs of guideway structure. Incidentally, by the time the consultant was appointed, 25 to 97 *per cent* of guideway structure[11] under phase I and 11 to 28 *per cent* under phase II was already completed.

The consultant in its report (December 2011) opined that increased weight of RSC may result in excess stress on the guideway structure. In order to prevent potential damages to the guideway structure, the consultant *inter alia* recommended a dedicated maintenance plan and periodic inspections of the guideway structure and also a review of design criteria for future phases of the project. However, MMRDA/PMC did not conduct any such review(s).

The MMRDA stated that regular monitoring of the guideway structure would be ensured in future. The MC during the exit conference stated that the weight of RSC increased due to provision of additional features in the car.

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[9] Rolling stock means monorail coach(es) either single or train of coaches for carrying passengers by the system

[10] K+S Ingeneiur Consult GmBH & Co

[11] Guideway civil works comprising piles, pile caps, piers, guideway beam casting and their placement

Serious deviations between RSC and guideway indicated poor oversight by MMRDA and PMC, raising concerns over the structural stability of the guideway structure and public safety.

Depot building not conforming to earthquake-resistant designs

The monorail depot at Wadala houses the operations and control centre, workshop, stabling yard for RSCs, administrative building, washing lines *etc*. The monorail contract document specified Indian Standards 1893 as the criteria for earthquake resistant design of civil structures. As per this standard, all important services and community buildings and those required for emergency preparedness are to be designed with an Importance Factor (IF)[12] of 1.5.

Audit observed that LTSE initially commenced the construction of depot building using IF of 1.0 which was subsequently revised to 1.5, after the deviation was pointed out by the PMC. But by then, 70 *per cent* of the piles for the depot building had already been constructed. LTSE subsequently corrected the IF from 1.0 to 1.5 by simultaneous reduction of various loads in the depot building by revising the designs of the depot building as shown in **Table 3.1.1**.

Table 3.1.1: Reduction of loads in depot building
Reduction in thickness of all internal walls from 230 mm to 150 mm.
Only mass of the empty train considered in the seismic analysis instead of fully loaded train.
Size of the guideway beam was reduced from 800 mm X 2,200 mm to 800 mm X 1,600 mm.
Filling material of toilet to be of cinder[13] instead of brick bat.
Live load of parking area was reduced from 1,000 kg per sq metre to 500 kg per sq metre.
Seismic mass generation of the entire driveway loaded with trucks considered earlier during the event of an earthquake was substantially reduced.
Live load under the foot print was deducted when train loads were considered.

Thus, the desired IF was achieved in the depot building by reduction of seismic loads.

MMRDA stated that seismic loads for zone 4 (high damage risk zone) were considered while designing the depot building whereas, Mumbai falls in Zone 3. The design of structure for Zone 4 with IF of 1.0 is equivalent to designing the structure in Zone 3 with IF of 1.5.

The reply is not acceptable as the contract itself provided that the depot building would be designed for Zone 4 intensity with a view to achieving the

[12] It is a factor used to obtain the design seismic force depending on the functional use of the structure, characterised by hazardous consequences of its failure, its post-earthquake functional need, historic value, or economic importance

[13] Light weight cinder is used for filling empty space in building, lobby, toilet deck, roof garden and other filling areas

required design life[14] of the structures. Therefore, IF of 1.5 should have been considered *ab initio* for Zone 4 loads.

Work of beam joints of guideway not as per standard

The contract document specified Indian Railway Standards Concrete Bridge Code (IRS CBC), 1997 for end-to-end joining of guideway beams in any section. As per IRS CBC, not more than 50 *per cent* of the reinforced bars[15] of the beams should be connected by screwed couplers. Audit observed that LTSE had joined reinforcement bars in 11 beams in phase I of the project between Wadala and Bhakti Park with 100 *per cent* screwed couplers. The PMC had initially rejected (March 2010) all the 11 beams on the ground that such an arrangement may render the joints very stiff thereby reducing the ductility required for seismic Zone 4. But, upon recommendations of the PMC (June 2010), MMRDA accepted the deviation as an exception and no penalty was levied on LTSE.

The MMRDA stated that the codal provisions of IRS CBC were not violated as this was not applicable to this case and added that the accepted beams were found to be safe. Therefore, no penalty was levied on LTSE.

The reply is not acceptable because had there been no deviations the PMC would not have rejected the beams in the first instance.

Expansion joints of guideway designed in violation of contract specifications

Expansion Joints (EJs) are provided in the guideway to allow for thermal expansion due to variations in temperature. The thickness of the plates of EJs depends on the design life of the plates and cyclic loads felt by the plates due to crossing of rolling stock over it. Hercules Engineering of Malaysia designed the EJs for the monorail project.

Audit observed that 514 EJs were fixed by LTSE on the guideway under both the phases, with reduced plate thickness[16] than that designed by Hercules, for which prior approval of PMC/MMRDA was obtained. The service life of these 514 EJs with reduced plate thickness was only 20 years against 50 years specified in the contract. While obtaining approval of PMC/MMRDA for this deviation, LTSE opined that by increasing headway[17] from three to four minutes, the number of crossing per day by the rolling stock would decrease from 400 to 300. This was finally accepted by PMC/MMRDA. But, this arrangement violated the contract conditions which provided for designing of monorail system with headway of three minutes and 400 crossing and accordingly, EJs were to be designed and fixed.

The MMRDA stated that the reduced thickness of EJ plates would be adequate even for three minutes headway as Hercules had designed the plates for axle load of 16.5 tonnes instead of actual axle load of 13.27 tonnes of the rolling stock.

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[14] The design life of a structure is that period for which it is designed to fulfil its intended function when inspected and maintained in accordance with agreed procedures

[15] A common steel bar that hold the concrete in a compressed state

[16] For top plate: from 75 mm to 60 mm; For side plate: from 60 mm to 45 mm

[17] The time gap between the movement of two rolling stock in the same direction

The reply is not acceptable as Hercules had adopted the British Standard 5400 where an impact allowance of 25 *per cent* was factored in while designing the EJs. Accordingly, the EJs were designed by Hercules for an axle load of 13.27 tonnes only and after considering the impact allowance of 25 *per cent,* the axle load of 16.58 tonnes (13.27 tonnes plus 25 *per cent*) was arrived at. Therefore, EJs of appropriate thickness of 75 mm/60 mm and service life of 50 years, to support headway of three minutes, should have been ensured by PMC/MMRDA.

Thus, while technical concession granted by reduction in plate thickness not only extended undue financial gains to LTSE, which was yet to be assessed, the MMRDA also did not eventually get what was contemplated in the contract. The EJs with reduced service life coupled with operation of the rolling stock at the designed capacity of three minutes headway and 400 crossings per day would lead to early deterioration of the EJs and also entail additional financial burden to MMRDA at some stage.

Inadequacies in electric traction system

The electric traction system provides power to the rolling stock train. The contract stipulated that the monorail system including the traction system be designed for headway of three minutes. Further, the traction transformer rectifier sets, beside their normal loads, should be capable of meeting 150 *per cent*, 300 *per cent* and 450 *per cent* overload for two hours, one minute and 15 seconds respectively to cater for abnormal situations.

Audit observed that contrary to the contract provisions, the traction system for monorail was designed for headway of 4.5 minutes. Resultantly, the traction system may not withstand the loads when the services are run for headway of three minutes. Further, the traction transformer rectifier sets were not tested for critical overload cycle up to 450 *per cent* for 15 seconds. Consequently, MMRDA was unaware of the implications of overloading. Besides, the quantum of savings accrued to LTSE on account of these deviations has not been assessed by MMRDA.

The MMRDA accepted the facts and stated that the traction system can be upgraded in future to cater to the requirement of three minute headway The MMRDA added that overload cycle up to 450 *per cent* for 15 seconds is not followed by International Standards.

The reply is not acceptable because (a) the traction system was to be designed *ab initio* for headway of three minutes as per contract stipulation. Further, upgradation of the system would only entail additional financial burden to MMRDA, and (b) while clarifying the query raised by the bidder, in the pre-bid meeting held before the award of contract, MMRDA had unequivocally stated that 450 *per cent* overload capacity was a practical requirement and cannot be changed and will remain part of the tender conditions.

3.1.2.5 Durability issues

As per monorail contract, all civil structures were to be designed for a life of 120 years. Audit observed that works having a bearing on the life of the civil structures were not carried out by LTSE as per contract conditions, as discussed in succeeding paragraphs.

Non-application of anti-carbonation paint

The contract provided for application of protective coating on the concrete structures for protection against extreme weather conditions. The situation in Mumbai is even worse due to high penetration of carbon dioxide due to pollution resulting in corrosion of reinforcement bars. Audit observed that protective coating (anti-carbonation paint) was not done by LTSE (November 2014) though phase I had already been commissioned from February 2014.

The MMRDA stated that initially payment was withheld for non-execution of anti-carbonation paint by LTSE but it was released subsequently after an assurance was given by LTSE that they would apply anti-carbonation paint. The MMRDA added that protective coating on the concrete surfaces would be taken up shortly.

Improper application of anti- corrosive treatment

The LTSE had been carrying out the work of anti-corrosive treatment (ACT) to reinforcement bars without cleaning the steel by sandblasting, as provided for in the contract, till March 2011. Consequently, MMRDA deducted ₹ 6.42 crore from the running account bills of LTSE paid till May 2011. However, 1,046 piles, 286 pier caps and 271 piers have already been constructed without proper ACT and the situation is irretrievable now.

Standard methodology not used in construction of guideway

The guideway structure of monorail was to be designed as pre-cast pre-stressed made continuous structure. The IRS CBC, 1997 was included in the outline specifications of monorail contract as code of practice for plain, reinforced and pre-stressed concrete for general bridge construction. As per IRS CBC, 1997 Portland Pozzolana Cement (PPC) shall not be used for Pre-Stressed Concrete (PSC) works. When PPC is used in plain and reinforced concrete, it is to be ensured that proper damp curing of concrete is done at least for 14 days and supporting form work[18] shall not be removed till concrete attains at least 75 *per cent* of the design strength. Further, stage of pre-stressing, period of removal of form work and period of curing *etc.* should be suitably increased.

Audit observed that after award of contract in November 2008, LTSE submitted (March 2009) and PMC approved (November 2009) the design criteria for guideway structure comprising of guideway beams using M-60 concrete grade. The concrete grade was achieved by blending Ordinary Portland Cement (OPC) with fly ash thus, making it PPC which was used for PSC superstructure of guideway, in violation of IRS CBC, 1997. It is also pertinent to note that LTSE used M-60 grade concrete without fly ash in the railway portion of monorail works as the Central Railway authorities did not permit usage of fly ash in concrete mix.

The construction schedule of LTSE further revealed that the cycle time for construction of one pre-cast pre-stressed guideway frame was reduced from 60

[18] Complete system of temporary structure built to contain fresh concrete so as to form it to the required shape and dimensions and to support it until it hardens sufficiently to become self-supporting

days to seven days for concreting, curing and first stage stressing of pre-cast beam, instead of stipulated 14 days for curing of concrete alone in case of usage of PPC. However, MMRDA/PMC did not assess the impact of use of PPC and reduced period for concreting and curing, on the overall long term behaviour of the guideway structure. Thus, the durability and stability of the guideway structure remained a matter of concern.

The Director (Monorail) stated in February 2015 that Clause 3.1.1 of the outline specifications included in the monorail contract was only an indicative list of applicable codes for general reference and guidance of the contractor, without any particular order of precedence. The list does not include IRS-code for plain, reinforced and PSC for bridges. The audit observation pertained to the construction methodology, as distinct from design and loading requirements. The Director (Monorail) further stated that LTSE was instructed to use OPC without fly ash in the railway portion of the monorail works as the Central Railway authorities insisted on this methodology as per railway practice. The Director (Monorail) added that the cycle time of 60 days was reduced to seven days keeping in view the quantum of guideway beams and the timelines.

The reply furnished by the Director (Monorail) is not convincing for the following reasons:

- Among other codes (IRC, IS, BS and AASHTO) referred to in the outline specifications, the IRS code was first in the order of precedence for plain, reinforced and PSC for general bridge construction and therefore, should have been adopted. More importantly, if selection and use of a particular code was discretionary, then inclusion of IRS code as the first priority in the outline specifications lacked justification. Further, the design and loading requirements cannot be viewed in isolation as both are integral to construction methodology.
- Significant reduction in construction schedule from 60 days to seven days, in order to cope up with the workload and stringent timelines, not only violated the IRS code but also demonstrated lacunae in planning for construction of guideway structure.

High chloride content in sub-soil

Chloride content in the soil leads to corrosion of reinforcement bars in the concrete structure. Appropriate steps needs to be taken to prevent chloride from reaching the reinforcement bars during the designed life of structure. The contract refers to *Report No.BS-14, January 2001 - Durability of concrete structures* from Ministry of Railways, Government of India, as the relevant publication recommending various concrete strengths based on the cover[19] and the design life of the civil structures which are within one km of coast line. For civil structures with 120 years design life and 75 mm cover, the report prescribes[20] minimum concrete strength of M-50.

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[19] Thickness (in mm) of concrete cover over the reinforced bar

[20] As per Chloride Penetration Curves depicted in the report

The soil investigation report submitted (January 2011) by LTSE to MMRDA pointed to high chloride content ranging between 20,050 and 89,000 Part Per Million (PPM) in 22 out of 31 locations on a portion of the monorail alignment (Wadala depot to Bhakti Park under phase I) which was within one km of Mahul creek and adjacent to Wadala salt pans. The chloride content in these locations was significantly higher than 19,400 PPM usually found in sea water. Audit however, observed that the foundations of piles and pile caps of guideway structure from Wadala depot to Bhakti Park station (stretch of 1.773 km) was constructed with concrete strength of M-35 with 75 mm cover instead of M-50 with 75 mm cover.

The MMRDA stated that at the time of commencement of the project, there was no provision available in any of codes/standards including IRS, IRC, IS or National Building Code on measures to be adopted in design and construction of structures for ensuring durability of 120 years. Further, the *Report No.BS-14, January 2001 - Durability of concrete structures* was not binding on the subject contract. The MMRDA added that since all the piles and pile caps were constructed using blend of OPC with fly ash thus, effectively making it PPC, the need for using M-50 may not be applicable as long as M-35 meets the structural design requirements.

The reply is not convincing because *Report No.BS-14* referred to above was part of the contract which clearly recommended use of M-50 for attaining the optimum design life of 120 years for civil structures. Further, the piles and pile caps were constructed with only concrete strength of M-35 despite use of PPC.

The use of concrete of reduced strength may lead to corrosion of reinforcement bars during the designed life of concrete structures in this section thus, resulting in their early deterioration.

3.1.2.6 Violation of contract conditions

The major violations of the contract conditions by LTSE are indicated below.

Use of lower grade of concrete for guideway foundation works

The LTSE mentioned use of concrete grade M-40 for piles and piles caps in its technical package. PMC approved (November 2009) the design criteria for guideway structure with concrete grade M-35. A total of 2,580 piles and 637 pile caps had already been constructed by LTSE using M-35 grade concrete as per the progress report of April 2014.

The MMRDA stated that this was being treated as value engineering[21] and the savings generated from this deviation would be recovered from LTSE.

Violations in depot works

- As per clause 2.4.3.12 of contract conditions, LTSE was to provide a waste water treatment plant in the depot for treating waste water of the workshop after cleaning of trains, bogies, bearings, traction motors,

[21] Any proposal of the contractor which would accelerate completion, reduce costs to the employer, improve efficiency or value to the employer shall constitute value engineering and is to be treated as variation to contract. Any savings generated due to value engineering is to be passed on to the employer

filters *etc*. so as to limit the effluents and discharge of environmental pollutants as per applicable rules/guidelines. However, this facility was not established by LTSE as of November 2014. The MMRDA is discharging foul water into the adjacent municipal sewerage system without treatment.

- A simulator, vital for training of train drivers in virtual reality, has not been supplied by LTSE in the depot, though provided for in the contract. Due to non-compliance to contract conditions, ₹ two crore has been withheld by MMRDA from the running account bills of LTSE.
- Housing of essential staff (station masters, maintenance staff, train captains and other operating staff in depot) though provided for in the contract, was yet to be established by LTSE though phase I of the project was operational from February 2014. Due to non-compliance to contract conditions, ₹ two crore was withheld by MMRDA from the running account bills of LTSE.
- Only two platforms were provided by LTSE in the depot, against three to be provided between four tracks of stabling yard. The MMRDA withheld ₹ 50 lakh from the running account bills of LTSE.

Non-establishment of essential facilities in the depot may adversely affect the training and operations and maintenance activities, apart from the regulatory issues on pollution which would continue to chase MMRDA.

Non-renewal of performance bank guarantees

As per the contract conditions, LTSE was required to furnish performance security in the form of bank guarantees (BG) equivalent to 10 *per cent* of the contract value[22] (₹ 246 crore). Audit scrutiny revealed that LTSE furnished six BGs amounting to ₹ 246 crore from State Bank of India of which, four BGs amounting ₹ 196.80 crore were not renewed by MMRDA through LTSE for a period ranging from one to 24 months. Thus, MMRDA did not safeguard its own financial interests due to sheer oversight.

The contract conditions further stipulated furnishing of additional BG by LTSE for *pro-rata* increase in contract value. Audit observed that though there was variations in contract value of ₹ 145.26 crore up to November 2014, BG equivalent to ₹ 14.53 crore was not obtained from LTSE.

MMRDA stated that all the lapsed BGs have since been revalidated and LTSE has been requested to submit the additional BG of ₹ 14.53 crore.

Non-recovery of payment made to RITES from LTSE

As per contract, LTSE was to quote lump sum price for supply of all materials (including all taxes and duties), testing, inspection *etc*. including fees payable to the inspecting authorities. The MMRDA entered into an agreement (January 2012) with railway administration laying down the modalities for implementation of monorail works passing over various railway crossings. As per agreement, all steel girders to be launched by MMRDA on railway

[22] Contract value was ₹ 2460 crore (excluding taxes of ₹ 256 crore)

crossings were to be tested by RITES and cost of testing and supervision of works were to be borne by MMRDA.

Audit observed that MMRDA made a payment of ₹ 1.81 crore to RITES up to October 2014 for testing, inspection of steel girders (procured by LTSE) for two railway crossing works, including supervision charges. However, payment made to RITES by MMRDA was not recovered from LTSE thus, violating the contract conditions.

3.1.2.7 Operation and maintenance cost of monorail system

As per contract, the monorail project was to be operated and maintained by LTSE for a period of three years from the date of commissioning at per trip[23] cost of ₹ 2,546, ₹ 3,131 and ₹ 3,790 for the first, second and third year of operations (for both the phases), subject to fixed lump sum cost of ₹ 179.21 crore towards Operation and Maintenance (O&M) cost. This O&M cost was in addition to the main monorail contract for ₹ 2,716 crore.

In its bid evaluation report of September 2008, RITES had pointed out that LTSE had included unexplained factors in benchmarking the O&M cost with Delhi Metro Rail Corporation (DMRC) such as, additional provision of 100 *per cent* on demand charges, extra provision of 35 *per cent* on energy charges, 75 *per cent* and 25 *per cent* extra on wages of technical staff and general staff respectively, 10-15 *per cent* extra due to higher living cost in Mumbai and 15 *per cent* extra on training/induction/overseas visits *etc*. RITES therefore, concluded that O&M offer of LTSE was on the higher side. However, during negotiations with MMRDA in October 2008, LTSE did not offer any reduction in the O&M cost.

Audit noted that 13 train sets proposed by LTSE were expected to run an estimated 5,148 km every day and the resultant O&M cost worked out to ₹ 258 per train km per day, ₹ 315 per train km per day and ₹ 381 per train km per day for the first, second and third year of operations respectively. On the other hand, the O&M cost of DMRC at 2007-08 level was merely ₹ 152 per train km per day.

Audit further observed that based on the proposal (June 2012 and March 2013) of LTSE, MMRDA agreed (October 2013) to increase the per trip cost of first year from ₹ 2,564 to ₹ 3,498 on the premise that there was likely to be a gap of six months between starting of commercial operations under phase I and phase II and therefore, LTSE would incur the entire fixed cost on manpower, material, electricity, depot expenses *etc.* in phase I of operations alone*,* which otherwise would have been spread out for both the phases of operations.

The action of MMRDA to grant higher trip rates for the first year of operations by ₹ 934 was irregular and rendered an undue financial benefit of ₹ 1.58 crore[24] to LTSE because the project implementation schedule and contract key dates as indicated under Section C; Appendix-2 of the contract

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[23] End-to-end journey by one train from Wadala depot to Chembur station under phase I comprises one trip

[24] Based on 16,898 trips actually made during first six months of operations (February to July 2014) under phase I (₹ 934 * 16,898 trips)

clearly indicated a staggered commissioning of both the phases by six months which was known to all the signatories to the contract.

3.1.2.8 Other issues

Procurement of escalators without tendering

The contract for monorail project did not include provision for escalators and was to be taken up separately. Audit observed that based on three quotations procured by LTSE in August 2012, MMRDA accorded (September 2012) an administrative approval for procurement of 66 escalators for 17 stations at a cost of ₹ 200 crore including installation, commissioning, civil works, operations and maintenance *etc.* The supply orders for procurement of these 66 escalators were placed with LTSE between January 2013 and June 2014 at a total cost of ₹ 140.04 crore, without competitive bidding.

The MMRDA justified the direct procurement stating that tendering for escalators would have led to the possibility of induction of new agency, apart from LTSE, in the monorail project premises while the work at stations was in progress. Under these circumstances tendering would not have ensured competitive rates.

The reply is not acceptable because reasonability of rates could have been assessed only after open tendering which would have also ensured probity and transparency in procurement.

Wasteful expenditure

The Executive Engineer engaged for supervision of works of Anik Panjarpole Link Road (APLR), a part of Eastern Freeway project of MMRDA, informed the monorail authorities in January 2009 that while planning for the monorail alignment, the monorail authorities did not appear to have taken cognizance of the existing APLR alignment because certain stretch of monorail alignment was coming in the right of way of APLR alignment. However, the monorail authorities did not consider the issue flagged by the Executive Engineer.

During actual execution of the works in this stretch between Mysore colony and Bharat Petroleum stations under phase I, apart from APLR alignment, Tata power lines and many houses of Mysore colony were also found to be falling in the right of way of monorail, necessitating realignment of monorail path by extra 700 metres. However, by then 12 piles had already been constructed by LTSE in the foundation of which, nine piles valuing ₹ 4.89 crore eventually proved to be wasteful. The realignment in this stretch also delayed the works by 535 days.

Non-levy of liquidated damages

The stipulated date of completion of phase I and II was November 2010 and May 2011 respectively. While phase I was completed after a delay of 38 months in December 2013, phase II was extended up to September 2015 thus, registering a delay of 52 months. Audit observed that on account of failure of LTSE to achieve a number of key milestones by stipulated dates, PMC had worked out liquidated damages of ₹ 153.15 crore up to August 2011 purely attributable to LTSE. However, as of November 2014 liquidated damages had not been levied on LTSE.

The MMRDA stated that LTSE has submitted its explanation/justification which was being examined and decision would be taken in due course. Once the matter is decided and the exact amount of penalty is arrived at, it will be recovered from the dues payable to LTSE.

Non-compliance to quality inspection reports

As per contract conditions, PMC was responsible for monitoring the works being executed by LTSE. Any deviations or deficiencies in the works, with reference to contract conditions, were to be reported by PMC through issue of Non-Conformance Reports (NCR) to LTSE. Audit observed that up to October 2014, PMC issued 426 NCR of which, 21 NCR raised between May 2010 and January 2014 were pending compliance by LTSE as of November 2014. The non-conformance pointed out by PMC related to (i) large bug holes on several guideway beams at wheel location; (ii) major cracks formed on the bottom portion of platforms slabs at various stations; (iii) many cracks in station track level slabs and leakages through these cracks; (iv) leakages in the wall of operation and communication centre and light maintenance area in depot building; (v) 22 KV cables buried in depot area was neither as per drawing nor on a better route maintenance; (vi) no arrangement to differentiate between untreated bars, bars with one coat, bars with two coats, bars ready for transportation *etc.*

Delay in ensuring timely remedial action by LTSE may aggravate the defects and deficiencies highlighted in the NCR.

3.1.3 Conclusion and recommendations

The monorail project was notified under Indian Tramways Act, 1886, though this Act did not have provision for construction and use of public transport at elevated level. The selection of consultants and benchmark prices arrived at for the project was not transparent. The designs for various system of monorail did not conform to the approved technical/contract specifications. The major deviations were observed in the guideway design which did not conform to the axle load of the rolling stock car, the plate thickness and service life of expansion joints of guideway was reduced, traction system was not designed for headway of three minutes, methodology for construction of guideway did not conform to the standards specified in the contract, improper application of anti-corrosive treatment in civil structures *etc*. However, the implications of these technical deviations granted to the contractor were not assessed by the project management consultant or the MMRDA. Various facilities and equipment to be provided by the contractor in the depot building were not provided in breach of contract. There were significant delays in renewal of performance bank guarantees and additional guarantees were not obtained from the contractor despite increase in contract cost. Liquidated damages were not levied despite failure of the contractor to achieve a number of key milestones by the stipulated dates.

The Government may ensure that projects are taken up only after establishing appropriate legal framework. In view of various deviations in the contract having direct bearing on the structural stability, design life of the structures and public safety, Government needs to review the design

issues, institute stringent inspection protocols and put in place a comprehensive maintenance regime.

The matter was referred to the Government in September 2014; their reply was awaited as of December 2014.

Home Department

3.2 Implementation of Coastal Security Scheme

3.2.1 Introduction

Maharashtra has a coastline of 720 kms spread over five districts of Greater Mumbai, Raigad, Ratnagiri, Sindhudurg and Thane. The coastal security is a three tier arrangement *i.e.* 0-12 Nautical Miles[25] are protected by the Coastal Police of the States whereas, beyond 12 Nautical Miles up to the high seas, the Coast Guard and the Indian Navy are responsible for protection.

With a view to strengthen the capabilities of the State police forces to secure the coasts from illegal cross border and criminal activities, Government of India (GoI) formulated (February 2005) a Coastal Security Scheme for implementation by the State Governments. The Scheme envisaged 100 *per cent* assistance from GoI for non-recurring expenditure on creation of capital assets and full reimbursement of recurring expenditure incurred on fuel, maintenance and repairs and training of staff. The cost of establishment of manpower for running the Scheme was to be borne by the State Governments.

The Government of Maharashtra (GoM) submitted (June 2005) a Perspective Plan for coastal security to GoI at a cost of ₹ 39.29 crore (non-recurring element only) which was subsequently revised in October 2010 to ₹ 45.55 crore. The GoI approved (December 2005 and November 2010) a total outlay of ₹ 104.05 crore (non-recurring element only) for implementation of the Scheme in two phases[26]. The GoI approval included construction of coastal police stations (CPS), construction of check posts, jetties, operational barracks, purchase of vehicles, patrolling boats *etc.* as indicated in **Table 3.2.1**.

Table 3.2.1 : Items approved by GoI under Coastal Security Scheme under Phase I and II

(₹ in crore)

Sr. No.	Items approved by GoI	Phase I		Phase II		Total	
		Units	Amount	Units	Amount	Units	Amount
1.	2.	3.	4.	5.	6.	7.	8.
1.	Coastal Police Stations	12	2.96	7	3.36	19	6.32
2.	Vessels	28	34.00	14	56.00	42	90.00
3.	Jeeps	25	1.00	7	0.49	32	1.49
4.	Motor Cycles	57	0.34	14	0.08	71	0.42
5.	Lump sum assistance for Police Stations	12	1.20	7	1.05	19	2.25
6.	Check posts	32	0.64	0	0	32	0.64

[25] One Nautical Mile =1.852 km

[26] Phase I (₹ 40.92 crore) was to be implemented during 2005-10 and Phase II (₹ 63.13 crore)was to be implemented during 2011-16

1.	2.	3.	4.	5.	6.	7.	8.
7.	Barracks	24	0.78	0	0	24	0.78
8.	Jetties	0	0	3	1.50	3	1.50
9.	Operational rooms for jetties	0	0	14	0.65	14	0.65
	Total		**40.92**		**63.13**		**104.05**
Source: Information furnished by Home Department, GoM							

The Director General of Police (DGP) is the overall in-charge for implementation of the Scheme in the State. The Commissioner of Police, State Intelligence Department is the nodal agency for implementation of the Scheme in the State.

Audit findings

3.2.2 Deficiency in planning for Coastal Security Scheme

While approving the Coastal Security Scheme of GoM in December 2005, vital components such as upgradation of 24 existing coastal police stations, setting up 72 watch towers and 24 new coastal outposts and intelligence equipment[27] were not considered by GoI. The estimated cost of these components was ₹ 6.65 crore. In addition, procurement of one reconnaissance helicopter (estimated cost was not assessed by GoM) proposed by GoM in its initial plan of June 2005 was also not approved by GoI. It was noticed that GoM also did not take any action to make good the shortfalls through its own budgetary resources indicating deficiency in planning for coastal security.

3.2.3 Non-utilisation of funds

The details of funds sanctioned by GoI, expenditure incurred by GoM and unspent balances at the end of November 2014 is shown in **Table 3.2.2**.

Table 3.2.2: Unspent balances as on November 2014 **(₹ in crore)**

Components	Phase I	Phase II	Total
Amount sanctioned by GoI	40.92	63.13	104.05
Less: Cost of boats to be supplied by GoI	34.00	56.00	90.00
Funds available with GoM for other components[28]	6.92	7.13	14.05
Total expenditure incurred	6.54	0.46	7.00
Unspent balance	**0.38**	**6.67**	**7.05**
Source : Information furnished by the Home Department			

The unspent balance of ₹ 0.38 crore under Phase I was being held by GoM for construction of barracks (January 2006) and procurement of equipment and furniture for CPS (October 2007). Under Phase II, GoM was holding ₹ 6.67 crore for construction of seven CPS and operational rooms on jetties, procurement of equipment and furniture for CPS since March 2012 (₹ 2.43 crore) and March 2014 (₹ 4.24 crore).

3.2.4 Non-submission of utilisation certificates

As per the Scheme guidelines formulated by GoI in February 2005, Petrol, Oil and Lubricants (POL) for patrolling boats, maintenance and repairs of

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[27] Voice logger unit; Digital voice pen recorder; Cellular interception system

[28] Construction of CPS, Equipment and furniture for CPS, Construction of Jetties, Vehicles, Barracks, Check posts *etc.*

patrolling boats and training of manpower were reimbursable by GoI for a period of five years from the commencement of the Scheme.

The GoI released (December 2009) ₹ 1.45 crore towards fuel expenses in advance to GoM for utilisation up to March 2010. Assistance for the subsequent months was payable by GoI only on submission of Utilization Certificates (UC) along with details of number of hours of patrolling carried out, areas patrolled with dates, mileage logged, seizures/arrests *etc*. Audit observed that GoM did not submit UCs for ₹ 1.45 crore. Further, reimbursement of expenditure incurred on fuel (₹ 7.16 crore[29]) and repairs and maintenance of boats (₹ 60.70 lakh[30]) during the period 2009-14 was also not claimed from GoI.

The Government stated that action is being taken to compile the data for reimbursement of expenditure incurred.

3.2.5 Delay in creation of infrastructure

The objective of creating adequate infrastructure for coastal security, as set out in the coastal security plan of GoM, by construction of CPS, jetties, check posts *etc.* remained unachieved even after lapse of three to nine years, as discussed below.

3.2.5.1 Delay in construction of coastal police stations

There were 25 CPS in the State prior to the implementation of the Scheme. The GoI approved 19 CPS[31] under the Scheme at a total cost of ₹ 6.32 crore under Phase I and II. The status of delay and excess expenditure incurred on construction of 12 CPS under Phase I as of November 2014 is given in **Table 3.2.3**.

Table 3.2.3: Delay in construction and excess expenditure incurred in respect of 12 CPS under Phase I **(₹ in lakh)**

Sr. No.	Name of the CPS/ District	Stipulated date of completion as per the work order	Actual date of completion	Delay in months	Actual expenditure incurred	Excess expenditure
1.	2.	3.	4.	5.	6.	7.
1.	Dighi/ Raigad	November 2011	March 2012	05	40.96	16.26
2.	Mandva/ Raigad	December 2011	December 2012	13	71.21	46.51
3.	Nate/ Ratnagiri	July 2010	August 2011	13	51.18	26.48
4.	Jaigad/ Ratnagiri	February 2010	July 2011	18	51.56	26.86
5.	Vijaydurg/ Sindhudurg	April 2012	April 2013	13	49.70	25.00
6.	Nivti/ Sindhudurg	September 2011	May 2013	21	59.50	34.80
7.	Bankot/ Ratnagiri	July 2008	August 2011	38	49.70	25.00

[29] Greater Mumbai: ₹ 1.62 crore, Thane: ₹ 2.25 crore, Raigad: ₹ 1.54 crore, Sindhudurg: ₹ 0.96 crore, Ratnagiri: ₹ 0.79 crore

[30] Greater Mumbai: ₹ 8.64 lakh, Thane: ₹ 39.72 lakh, Raigad: ₹ 8.78 lakh, Sindhudurg: ₹ 1.77 lakh; Ratnagiri: ₹ 1.79 lakh

[31] Phase I – 12 CPS and Phase II – seven CPS

1.	2.	3.	4.	5.	6.	7.
8.	Satpati/ Thane	June 2008	June 2012	48	46.18	21.48
Total					**419.99**	**222.39**
9.	Achra/ Sindhudurg	September 2011	In progress	38	49.70	25.00
10.	NRI/ Navi Mumbai, Thane	December 2014	In progress	Being constructed by the City and Industrial Development Corporation, Mumbai free of cost		
11.	Sagari-I /Greater Mumbai	Not commenced due to non-availability of land and pending no objection certificate from Environment Department, GoM				
12.	Mora/Navi Mumbai, Thane					
Source: Information furnished by the Home Department						

As may be seen from **Table 3.2.3** above, construction of eight out of 12 CPS was delayed by five to 48 months with an excess expenditure of ₹ 2.22 crore (Sr. No. 1 to 8). Of the remaining four CPS, construction of two CPS was in progress (Sr. No. 9 and 10) and construction of two CPS had not commenced (Sr. No. 11 and 12) as of November 2014. One CPS under construction has already registered an escalation of ₹ 25 lakh (Sr. No. 9).

As regards seven CPS under Phase II, architects and designers for four CPS have been appointed; administrative approvals for two CPS have been granted belatedly in November 2014 due to change of locations; and proposal for one CPS was pending with the Urban Development Department, GoM for coastal regulatory clearance.

The Government stated that even after frequent follow-up and regular correspondence with concerned District Collectors as well as Salt Commissioners, the identified lands were not handed over to the Police Department for construction of CPS. As a result, construction of CPS could not commence on time and led to increase in construction cost.

3.2.5.2 Delay in construction of check posts

Check posts are established to keep vigil on the movement of men and materials from and to the coastal areas. Of the 32 check posts approved by GoI under Phase I, 26 check posts were completed within the time schedule at a cost of ₹ 67.90 lakh as against the sanctioned cost of ₹ 52 lakh. Of the remaining six check posts, five check posts were incomplete as of November 2014 due to non-availability of land (three check posts); GoM has called for revised proposal for administrative approval (one check post); non-receipt of no objection certificate from Maharashtra Coastal Zone Management Authority (one check post). The sixth check post though constructed in June 2012 at a cost of ₹ 7.98 lakh was not being used due to non-availability of basic facilities such as, water and electricity. Incidentally, construction cost of two check posts had already escalated from ₹ two lakh per unit approved by GoI to ₹ 22.70 lakh and ₹ 32.35 lakh as of December 2014.

3.2.5.3 Non-availability of dedicated exclusive jetties

Jetty is a landing point or small pier at which boats can dock. The coastal police does not have jetties of its own in any of the five districts. Consequently, the patrolling boats are anchored either at jetties owned by

Maharashtra Maritime Board[32] (MMB) or the jetties owned by the private operators. As such, there remained the risk of breach of confidentiality of police operations and its further misuse, by virtue of using common jetties.

Further, while the coastal police continued to be deprived of dedicated jetties for its exclusive use, a proposal for construction of operational rooms[33] in the jetties belonging to MMB was belatedly submitted by GoM in October 2013 which was approved by GoI in March 2014 at a cost of ₹ 2.15 crore. However, construction of operational rooms had not commenced as of December 2014.

3.2.6 Functioning of Coastal Police

For efficient functioning of the coastal police, deployment of adequate and trained manpower, patrolling boats and equipment assumes vital importance. Audit observed shortages in manpower, shortfalls in training to non-technical staff and non-fitment/short-supply of equipment.

3.2.6.1 Manpower shortage

The position of manpower sanctioned, posted and vacancies as of November 2014 is shown in **Table 3.2.4**.

Table 3.2.4: Staff sanctioned, posted and vacant as on November 2014

District	Technical posts			Non-technical posts			Total posts		
	Sanc-tioned	Men-in-position	Percent-age shortfall	Sanc-tioned	Men-in-position	Percent-age shortfall	Sanc-tioned	Men-in-position	Percent-age shortfall
Ratnagiri	88	54	38.64	457	374	18.16	545	428	21.47
Greater Mumbai	464	196	57.76	1451	494	65.95	1915	690	63.97
Raigad	102	51	50.00	356	319	10.39	458	370	19.21
Sindhudurg	69	44	36.23	230	304	Nil	299	348	Nil
Thane	187	99	47.05	894	643	28.08	1081	742	31.36
Total	**910**	**444**	**51.21**	**3388**	**2134**	**37.01**	**4298**	**2578**	**40.02**
Source: Information furnished by Home Department, GoM									

The shortfall in deployment of technical staff[34] for boat operations was 51.21 *per cent* while the shortfall in non-technical staff was 37.01 *per cent*. The shortfall of non-technical staff was highest at 65.95 *per cent* in Greater Mumbai.

The Home Department, GoM decided (October 2009) to recruit 154 technical staff[35] for deployment in the five coastal districts. However, only 10 qualified persons could be recruited during the period February 2011 to December 2011 as sufficient eligible candidates were not available. The GoM granted (October 2011) permission to fill up the remaining posts on contract basis by relaxing the eligibility criteria like educational qualifications, experience *etc*. Accordingly, 116 technical staff were hired on contract basis during 2012-13 and 2013-14. The revised recruitment rules relaxing the eligibility

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32 An autonomous body functioning under the Home Department, GoM

33 In lieu of construction of three new jetties

34 Police Sub-Inspector (Second Class Master Driver), Police Sub-Inspector (First Class Engine Drivers), Assistant Police Inspector (Sarang), Assistant Police Inspector (Engine Driver) *etc.*

35 77 Police Sub-Inspectors (Second Class Master Driver) and 77 Police Sub-Inspectors (First Class Engine Drivers)

criteria were submitted by Special Inspector General, Motor Transport, Pune to GoM for approval in February and April 2013, which was pending with GoM as of November 2014. Due to delay in finalisation of recruitment rules, the Home Department continues to hire technical manpower on contract basis. The desirability of engaging contract staff for such sensitive operations needs to be reassessed by the Government as it is fraught with certain obvious risks.

3.2.6.2 Shortfall in training

Out of 2,134 staff posted in the coastal police stations, only 916 officials (43 *per cent*) were trained by the Coast Guard as of November 2014 in marine operations. Also, 1,225 out of 2,134 non-technical staff (57 *per cent*) posted in the coastal police stations did not possess swimming skills.

The Government stated that a circular, making swimming skills compulsory for staff deployed for coastal security, has been issued in November 2014.

3.2.6.3 Non-fitment/short-supply of equipment

Global Positioning System (GPS) helps the crew to understand the navigational channels and location of the boats in the sea at any given time. Audit observed that GPS was not fitted in 34 out of the 69 operational boats[36]. Further, against the total requirement of 426 bulletproof jackets in five coastal districts, only 170 jackets were supplied by the Home Department to the CPS.

The Government stated that proposal for installation of GPS on 22 boats supplied by GoI through Goa Shipyard was submitted to GoI in September 2012, which was pending.

3.2.7 Operational activities

Audit scrutiny revealed that the patrolling boats were grossly underutilised and not maintained adequately. No joint patrolling was being done by the coastal police with other Services/agencies indicating the probability of critical gaps in coastal patrolling. The issues are discussed below:

3.2.7.1 Sub-optimal patrolling

Prior to introduction of the Coastal Security Scheme, GoM had 15 boats. Twenty eight boats were subsequently procured under Phase I between June 2009 and September 2010. In addition, 29 speed boats and four Sealegs amphibious marine boats were procured between May 2009 and February 2012 by GoM from its own resources. In all, GoM had 76 patrolling boats during 2009-14.

The GoI issued guidelines (September 2009) stipulating the norms for annual patrolling by the boats for their optimal utilisation. As per the guidelines, each boat was to be used by the coastal police for a minimum of 120 hours in a month with a minimum 1,400 hours *per annum*. The norm regarding number of patrolling hours was revised upwards (October 2010) to 150 per month with a minimum of 1,800 hours *per annum*. An additional 40 hours per year, over and above the yearly patrolling task, was to be utilized for special operations/ exercise/training.

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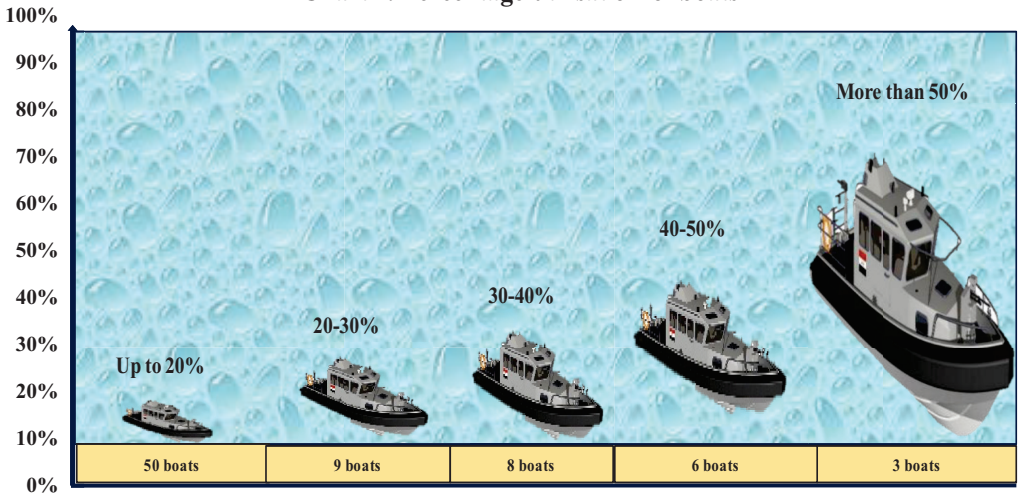
[36] Total 76 boats were available

Audit scrutiny revealed that against the norm of minimum 1,400/1,800 hours *per annum*, 76 boats had logged only 90,812 hours (18.48 *per cent*) during 2009-14 against the stipulated 4,91,520 hours, as per the norm. The average utilization of boats decreased from 29.40 *per cent* in 2009-10 to 17.12 *per cent* in 2013-14. Analysis of the utilisation data further revealed that 50 boats were utilized only up to 20 *per cent* during the year 2009-14 as shown in **Chart 1**.

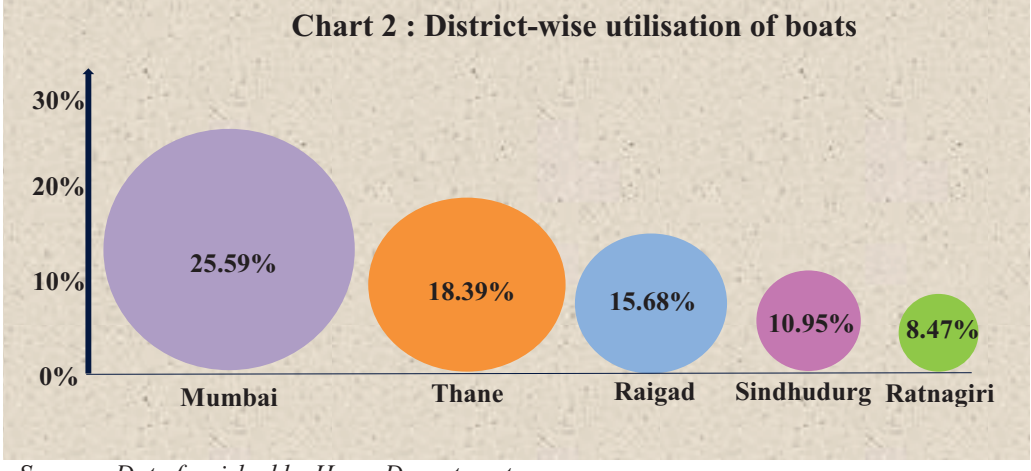
Chart 1: Percentage utilisation of boats



Source: Data furnished by Home Department

District-wise analysis of usage of boats revealed that the average utilization ranged between 8.47 *per cent* (Ratnagiri) and 25.59 *per cent* (Greater Mumbai) during 2009-14, as shown in **Chart 2**.

Chart 2 : District-wise utilisation of boats



Source : Data furnished by Home Department

Further, Home Department did not prescribe Management Information System to obtain periodical reports regarding hours of patrolling lost, from the districts for taking corrective action. Major reasons for non-utilisation of boats were shortage of manpower as already discussed in **paragraph 3.2.6.1** and delay in repair and maintenance of boats which is discussed below.

The Government stated that the norms laid down in GoI letter of September 2009 are not related to patrolling hours to be put by each boat but relates to determining the cost implications of POL expenses on running the boats for the purpose of reimbursement of fuel expenses. The Government added that after accounting for the breakdown period of about 250 to 270 days (including

150 days of monsoon period when no patrolling is done), the average hours available to each boat for patrolling during a year works out to 95 to 115 days.

The reply is not acceptable because (a) annual task for boats was laid down by GoI for optimal use of these assets in close coordination with other agencies for achieving the principal objective of coastal security and (b) considering the lost period of 250 to 270 days on account of monsoon and breakdown, the effective time available for patrolling, as per the Government's own admission, works out to merely 29 *per cent*[37], which is insignificant and is a pointer to serious gaps in coastal security.

3.2.7.2 Delays in repair and maintenance of boats

In the aftermath of the 26/11 terror attack, GoM procured (November 2009) four Sealegs amphibious marine boats[38] from M/s Sealegs International Limited, New Zealand (Supplier) at a cost of ₹ 1.94 crore, with a warranty period of one year. After expiry of warranty period in September 2010, the supplier stopped maintenance of boats. Though, the Commissioner of Police, Mumbai submitted (September 2010) a proposal to Home Department for Annual Maintenance Contract (AMC) with the Indian Agent of the supplier at a cost of ₹ 25.42 lakh, the same was approved by Home Department only in November 2013. However, the agent refused to execute the AMC due to increase in cost of spares to be sourced from its principals abroad, on account of huge variation in foreign exchange rate. In the meantime, a quotation from the Indian Agent (February 2011) for repair of Sealegs at a cost of ₹ 28.50 lakh was also approved belatedly by the Home Department in July 2013. But by then, the agent expressed its inability to repair the boats due to price escalation on account of variation in foreign exchange rate. Due to non-availability of spares and maintenance services, three Sealegs stand grounded since January 2011 and one since March 2011. The Deputy Commissioner of Police submitted (April 2014) a proposal to the Additional Chief Secretary, GoM for condemnation of these boats, being beyond economical repairs. However, approval to condemnation proposal was awaited (December 2014).

The Government accepted the facts and stated that the Finance Department, GoM has raised certain queries on the condemnation proposal and accordingly, information was called for from the Deputy Commissioner of Police.

Mention was made in paragraph 3.4.3 of the Report of the Comptroller and Auditor General of India (2008-09) regarding delay in taking timely and appropriate action for repair of speed boats. The State Public Accounts Committee in its 17th Report (2012-13) had recommended (February 2014) to fix responsibility for delay in repair of boats and also delegate sufficient financial powers to the Police Department to cut the procedural delays in seeking approvals for repairs.

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[37] Average time lost in a year due to monsoon and breakdown: (250+270) ÷ 2 = 260 days
No. of days available for patrolling in a year: 365 - 260 = 105 days
Percentage of effective patrolling that can be done during a year = (105 ÷ 365) × 100 = 29 *per cent*

[38] Capable of operation on both land and water

Scrutiny of records in Thane, Raigad, Sindhudurg and Ratnagiri districts revealed that time taken for repair of 28 boats (both existing and new boats) during the period 2009-14 ranged between four and 46 months due to undue delay in defect inspection[39] and submission of repair estimates by the suppliers of boats, delay in granting approvals by the DGP/Home Department *etc*. In Ratnagiri, Greater Mumbai, Raigad and Thane districts, 15 boats were lying unrepaired since October 2012 and July 2013, as approval to repair proposals were pending with the DGP/Home Department for eight to 32 months.

The Government stated that the Police Department has been delegated sufficient financial powers for repair and maintenance of boats in November 2013 and since then the percentage of non-operational boats and the time required for their repair and maintenance had drastically decreased.

However, audit did not find any perceptible improvement in the situation even after delegating substantial financial powers to the Police Department. The downtime of boats continues to be significantly high thus, affecting the patrolling operations.

3.2.7.3 Joint patrolling

Coastal patrolling is an essential element of costal defense for stoppage of infiltrators and prevention of unlawful activities like smuggling. The coastal patrolling is undertaken jointly by the Indian Coast Guard, Indian Navy and Coastal Police and Customs. During joint patrolling, all the agencies support and supplement each other's efforts in the overlapping jurisdiction.

Audit scrutiny revealed that the Naval Officers stopped joint patrolling with coastal police from April 2012 as the boats belonging to GoM were not insured and there was no insurance for the men who go into the deep sea for patrolling. Moreover, the basic amenities/facilities in police boats are lacking. The Coast Guard also stopped joint patrolling with the coastal police from April 2012 due to space constraints in the police boats. Joint patrolling with Customs was being done only in three[40] out of five districts.

The Government did not furnish any specific reply to the audit observation.

3.2.8 Fishermen related security concerns

3.2.8.1 Issue of biometric identity cards to fishermen

The GoI sanctioned (March 2010) ₹ 88.25 lakh to GoM for implementation of Central Scheme on 'Issuance of Biometric Identity Cards to the coastal fishers'. The Scheme envisaged issue of biometric cards to coastal fishermen for strengthening security along the coastal area and for facilitating identification of fishermen in case of accidents/death in the sea or for identification of strangers in the sea.

The GoI signed a contract agreement (May 2010) with a consortium of three Central Public Sector Undertakings[41] (CPSU) for data digitization, capturing of digital photographs and biometric details of individual fishers, in

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39 Inspection carried out to identify the defects in the boats for its repairs

40 Greater Mumbai, Raigad and Thane

41 Consortium comprising of Bharat Electronics Limited, Bangalore; Electronic Corporation of India Limited, Hyderabad; and Indian Telephone Industries, Bangalore

association with National Informatics Centre (NIC). The consortium of CPSU was to complete the entire project of issuance of biometric cards to about three million coastal fishermen along with supply of card readers to the respective implementing agencies of the State Governments, within a period of six months from the date of signing of agreement (May 2010).

In Maharashtra, the responsibility for scheduling of biometric camps, collection of information in paper-based data entry forms in respect of each fisherman *etc.* was entrusted to Fisheries Department of GoM. Indian Telephone Industries (ITI), Palakkad was the designated CPSU for Maharashtra and Goa.

Audit scrutiny revealed that of the 1.87 lakh applications received up to August 2014 from the fishermen, the Fisheries Department handed over 1.83 lakh applications to ITI, Palakkad for further processing of which, 1.28 lakh biometric cards were supplied up to August 2014. The remaining 0.59 lakh applications were under various stages of processing in the Fisheries Department (0.04 lakh) and ITI, Palakkad (0.55 lakh). Of the 1.28 lakh cards supplied by ITI, Palakkad, the Fisheries Department issued 1.27 lakh cards to the fishermen up to August 2014. As of November 2014, ₹ 71.41 lakh has been spent on the Scheme by the Fisheries Department.

Audit scrutiny further revealed that 100 card readers received from ITI, Palakkad up to October 2014 by the Fisheries Department failed to verify the actual finger prints of the fishermen during demonstration/training session held in September 2014. Consequently, the Home Department (the implementing agency) refused (September 2014) to accept the card readers. As of November 2014, none of the 1.27 lakh biometric cards issued to the fishermen up to August 2014 could be put to any effective use and the objective of easy identification of *bona fide* fishermen or strangers venturing into/from the sea remained unachieved.

The Government accepted the facts and stated that the issue of card readers has been referred to ITI, Palakkad for remedial action.

3.2.8.2 Non-implementation of boat movement token system and uniform colour coding system

Boat movement token system is an important initiative to keep an eye over the incoming/outgoing fishing vessels venturing into sea from sensitive/vulnerable landing points[42]. The system allows the coastal authorities (Coastal Police, Coast Guard and Customs) to monitor whether the same fishermen with necessary documents have returned to that landing point. Besides, the system also renders an unbroken surveillance and guarding to these landing points by virtue of their close proximity to vital installations/infrastructural assets and road/rail *etc.*

The boat movement token system is functional in Gujarat since September 2009. Audit observed that the Commissioner of Fisheries submitted a proposal to GoM in March 2013 for setting up the boat movement token system at 173

[42] A point where loading and unloading of cargo and/or boarding and alighting of passengers takes place

landing points at a total cost of ₹ 4.87 crore[43]. While no action was taken by GoM on this proposal, the Commissioner of Fisheries submitted a revised proposal, after a time lag of one year, in April 2014 to GoM seeking approval for setting up boat movement token system at 91 most sensitive/vulnerable landing points (65 fish landing points and 26 non-fishing landing points), out of total 525 landing points, at a total cost of ₹ 2.83 crore[44]. The revised proposal of the Fisheries Department, as observed by audit, was based on the assessment of threat perception made by the Indian Navy in June 2013 where 91 out of 525 landing were categorised as most vulnerable. However, as of November 2014, the revised proposal was pending with GoM.

Thus, even after a time lag of 20 months, the sensitive/vulnerable landing points continue to be exposed to infiltration and other illegal activities.

The Government accepted the facts and stated that the proposal for issuance of token to fishing boats was submitted to the Finance Department (FD) of GoM. The FD had raised certain queries, which are being looked into.

Audit further observed that the need for implementing the system of colour coding for fishing boats in Maharashtra was recognised way back in April 2010 by the MMB and reiterated by the Coast Guard in May 2010 for easy identification and tracking of fishing vessels by the maritime security agencies. Subsequently, the Chief Secretary, GoM during a coastal security meeting held in July 2012 also emphasised the need for uniform colour codes for the fishing boats. However, the system was not implemented as of November 2014.

The Government stated that colour code has been decided for fishing vessels in five marine districts but, did not state the probable date of implementation of the system.

3.2.9 Conclusion and recommendations

The implementation of Coastal Security Scheme in the State suffered as full complement of equipment and other capital assets initially planned for but not approved by Government of India were not procured or constructed by Government of Maharashtra from its own resources.

The Government may review the need for equipment and other capital assets initially planned for and fulfill the requirements through State funding.

The objective of creating adequate infrastructure by construction of coastal police stations, check posts and jetties could not be achieved despite a lapse of three to nine years.

In order to ensure that the coastline does not remain porous for long, construction of remaining coastal police stations and check posts as well as operational rooms in the jetties should be completed without further delays.

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[43] ₹ 1.07 crore non-recurring expenditure on infrastructure and recurring expenditure of ₹ 3.80 crore on electricity, establishment cost *etc.*

[44] ₹ 0.46 crore non-recurring expenditure on infrastructure and recurring expenditure of ₹ 2.37 crore on electricity, establishment cost *etc.*

The shortfall in deployment of technical and non-technical staff was 51.21 *per cent* and 37.01 *per cent* respectively. The Home Department continued to hire technical manpower on contract basis due to delay in finalizing the recruitment rules. Of the total staff posted in costal police stations, only 43 *per cent* were trained by the Coast Guard in marine operations while 57 *per cent* did not possess swimming skills. The patrolling boats were grossly underutilised due to shortage of manpower and delay in repair of boats.

The system of hiring of manpower on contract basis may be reviewed by the Government to eliminate the possible threats to coastal security. The Government may also address the critical gaps in coastal patrolling by improving the downtime of boats.

The Scheme for issue of biometric identity cards to fishermen for facilitating their identification could not be implemented due problem in card readers. The sensitive/vulnerable landing points continued to be exposed to infiltration and other illegal activities due to non-implementation of boat movement token system.

The Government may sort out the issues involving the card readers with ITI, Palakkad so that the Scheme of biometric identity cards for the fishermen could be implemented expeditiously. Further, for safeguarding the sensitive/vulnerable landing points from infiltration and illegal activities, Government may implement boat movement token system without delay.

Tribal Development Department

3.3 Functioning of Tribal Research and Training Institute

3.3.1 Introduction

The Government of Maharashtra (GoM) established the Tribal Research and Training Institute (TRTI) at Pune in 1962 to (i) conduct research into the traits, characteristics, customs, traditions and culture of the various tribal communities, (ii) carry out survey of socio-economic problems affecting the tribals, either under its own aegis or through well organized reputed agencies, (iii) arrange for the training of workers in tribal welfare, and (iv) give technical guidance and assistance to various Departments in implementing their schemes for tribal welfare. A Governing Council (GC) comprising of six officials and seven non-official members headed by the Minister, Tribal Development Department (TDD) keeps a constant watch on the progress of the work of TRTI. The Commissioner, TRTI is the Member Secretary of the GC. The Commissioner is assisted by a Joint Director and a Deputy Director (Statistics).

The activities of TRTI include evaluation of different welfare schemes, preparation of books on tribals, tribal sports, establishment of tribal museum, library and imparting trainings/workshops to the tribal youths and employees of Tribal Development Department. Further, there are eight Tribe Verification Committees[45] (TVC) functioning in the State for implementation of

[45] Thane, Pune, Nashik, Aurangabad, Amravati, Nagpur, Gadchiroli and Nandurbar

Maharashtra Scheduled Castes, Scheduled Tribes, De-notified Tribes (Vimukta Jatis), Nomadic Tribes, Other Backward Classes and Special Backward Category (Regulation of Issuance and Verification of) Caste Certificate Act, 2000. The TRTI exercises administrative control over the working of TVC and coordinates its activities. The Commissioner, TRTI is the Chairman of TVC.

The State has 45 Scheduled Tribes spread over 21 districts which constitutes 9.35[46] *per cent* of the total population.

A review of the functioning of TRTI for the period 2009-10 to 2013-14 revealed the following:

Audit findings

3.3.2 Allocation of funds and expenditure

The funds received and expenditure incurred during 2009-10 to 2013-14 by TRTI and TVCs is indicated in **Table 3.3.1**.

Table 3.3.1: Budget allocation and expenditure incurred by TRTI and TVCs

(₹ in crore)

Period	Budget provision		Expenditure			Percentage to total expenditure	
	TRTI	TVC	TRTI	TVC	Total	TRTI	TVC
2009-10	9.89	7.24	9.87	7.24	17.11	57.69	42.31
2010-11	16.74	7.98	16.34	8.60	24.94	65.52	34.48
2011-12	4.22	9.53	4.22	9.48	13.70	30.80	69.20
2012-13	2.72	10.22	2.82	10.78	13.60	20.74	79.26
2013-14	3.29	15.03	3.15	15.05	18.20	17.31	82.69

Source: Appropriation Accounts

The expenditure under TRTI was high during 2009-10 due to appointment of special staff for publication of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, which was enacted by the Government of India (GoI) in December 2009. However, the staff was transferred thereafter to the Commissioner, Tribal Development, Nashik resulting in decline in expenditure by TRTI. Further, the expenditure under TVC increased due to the increase in pay and allowances of the staff on implementation of the Sixth Pay commission.

3.3.3 Non-formation of Governing Council

The term of GC was for a period of three years to be reconstituted thereafter. However, the GC was not reconstituted by GoM after October 2004, due to non-appointment of non-official members.

The Commissioner, TRTI stated (March 2014) that the GoM granted (December 2013) autonomous status to TRTI with a view to augmenting its working capacity and the GC as well as the Working Committee was reconstituted with nine and 12 official members respectively. The composition of the Working Committee was subsequently modified (September 2014) by the GoM to seven official and 10 non-official members.

[46] As per census of 2011

In the absence of GC from October 2004 till December 2013, the work of research, training and survey could not be conducted effectively and efficiently, as discussed in the succeeding paragraphs.

3.3.4 Poor performance in conducting research studies

TRTI conducts research on subjects communicated by GoI or GoM or on subjects decided by the GC. Audit observed that TRTI conducted 12 research studies in the past 28 years since its inception in 1962 till 1990 while in the next 23 years up to December 2013, it conducted only six research studies. In the last five years (2009-14), based on the subjects communicated by GoI and GoM, TRTI conducted only two research studies[47]and submitted the reports during 2009-13 while the research work on one subject[48] communicated by GoM in December 2012 was in progress as of September 2014, though the initial timeline was one month.

In one case, TRTI undertook a study (September 2006) at the behest of GoI on reservation provided to tribes in Central and State Government offices and other Government Undertakings. Though the study was to be completed in 40 weeks (July 2007), it remained incomplete as of September 2014. The Commissioner, TRTI stated (September 2014) that due to huge scope of work, insufficient staff and poor response from the Government offices and Undertakings, the study could not be completed. The reply of the Commissioner is not acceptable as audit scrutiny revealed that TRTI, except for issuing questionnaires to 23 State Government offices in June 2007, did not conduct any field study and analysis.

Audit scrutiny further revealed that due to non-reconstitution of GC, no subject(s) could be chosen by TRTI for research studies on its own during October 2004 to March 2014.

3.3.5 Non- conducting of benchmark survey

One of the objectives of TRTI was to carry out socio-economic survey for determining the problems affecting the tribals, either under its own aegis or through well organized reputed agencies. In this regard, TRTI was collecting statistical information covering various aspects of socio-economic conditions, details of education, occupation *etc* of the tribal communities. The survey report is used by GoM for planning various schemes for the development of tribal communities.

The last benchmark survey was conducted by TRTI between 1996-97 and 1999-2000. In view of increase in population, changes in the socio-economic conditions of tribals since the last survey, GoM submitted a proposal in July 2007 to GoI to share 50 *per cent* of the estimated expenditure of ₹ 4.63 crore to be incurred on benchmark survey. The proposal was further revised in July 2008 and August 2009 showing the estimated expenditure to be ₹ 7.51 crore. In the absence of any response from GoI, GoM resubmitted the proposal in February 2012 to GoI for 100 *per cent* financial assistance with an estimated

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47 (a) Human development indicators among the Scheduled Tribes of Maharashtra (GoI) (b) Gavkor system in Gadchiroli district (GoM)

48 In depth study on Bhilala and Pawra tribes in Buldhana district

expenditure of ₹ 36.74 crore. However, GoI expressed its inability (September 2012) to grant any financial assistance due to limited budgetary resources. No further action was taken by TRTI/GoM to conduct the benchmark survey out of its own funds.

In effect, only one benchmark survey was conducted by TRTI in 1999-2000, which has since lost its relevance as the tribal population of the State has increased from 85.77 lakh in 2001 to 1.05 crore in 2011 (an increase of 22.42 *per cent*). Further, non-conducting of benchmark survey detailing the current demographic and socio-economical profile of the tribal population deprived the GoM of the vital inputs, essentially required for planning for various schemes benefiting the tribal population.

3.3.6 Impact assessment of schemes

The TRTI conducts surveys and assesses the impact of various schemes being executed by the TDD and other line departments[49] for tribal communities based on which, reports are prepared and submitted to GoM for improved implementation of the schemes.

Audit scrutiny revealed that TRTI did not formulate any guidelines regarding the number of schemes to be evaluated each year and the frequency of such evaluations. Further, TRTI could evaluate only 11[50] out of 171 schemes[51] during 2009-12 thus, indicating poor coverage of schemes for impact assessment. Based on the limited evaluation of the schemes, TRTI gave a number of recommendations but these were not implemented/acted by the TDD.

The Principal Secretary accepted (September 2014) that selection of schemes for evaluation was limited as TRTI was understaffed to do such studies and that the capacities of TRTI were required to be augmented which may not be necessarily in numbers but in expertise at the higher levels. The Principal Secretary added that the studies conducted by TRTI lacked analysis which affected the quality of evaluation studies and such studies should be conducted with appropriate sampling and other techniques. For this purpose, steps were being taken to rope in outside agencies which would provide the framework and methodology while the studies would be conducted through TRTI.

The General Administrative Department, GoM, took a policy decision in September 2011 to entrust the work of research and evaluation of schemes of various departments to Yashwantrao Chavan Academy of Development Administration (YASHADA). Accordingly, TDD allotted (November 2011)

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[49] Agriculture, Animal Husbandry, Dairy Development and Fisheries; Water Supply and Sanitation; Public Health; Revenue and Forest; Education

[50] Report on Implementation of Gharkul Yojana for Tribals, Report on Sanjeevan Vidyalaya, Water supply to Ashram Schools, Family Planning, Providing Oil Pumps/HDPE pipes, Supply of Gas Kits, Implementation of Schemes for development of Pardhi Community, Payment of Khavati loan to tribal People through Maharashtra State Tribal Development Corporation, Tribal Village level governance strategies for sustainable development in the Bhimashankar area, Study on Katkari Tribe in Mulshi Taluka and Evaluation of Schemes provided to Primitive Tribe Group Schedule Tribes

[51] 99 schemes implemented by TDD and 72 schemes implemented under Tribal Sub Plan

evaluation work of 16 schemes being implemented by it in four regions[52] of the State to YASHADA and accorded (March 2012) administrative approval of ₹ 2.44 crore. The TRTI released ₹ 52 lakh in March 2012 to YASHADA for completion of the evaluation work by March 2014.

Audit observed that TRTI did not execute any Memorandum of Understanding with YASHADA which was in breach of its own directives issued to YASHADA in April 2012. As of May 2014, YASHADA submitted an interim report in respect of only Nashik region on which ₹ 40.43 lakh was spent (out of total release of ₹ 52 lakh). The objective of timely evaluation of schemes for impact assessment thus, remained unachieved.

3.3.7 Shortfalls in training

The TRTI is responsible for conducting training programmes for the officers/staff of various cadres of TDD. Since 1970, the institute is conducting training programs according to the changing time and need, aims and objectives. The training is planned on an annual basis by the Commissioner, TRTI. The following training programs are conducted as detailed below:

In-service training

The Institute conducts various training programmes for employees of Tribal Development Department which includes training for Junior and Senior Clerks; Tribal Development Inspectors, Head Masters, Teachers and Superintendents of Ashram Schools, Wardens of hostels; Lecturers of newly established Junior Colleges *etc*.

Pre- service training

With a view to helping fill up backlog of posts reserved for Scheduled Tribes in various Government/Semi Government organisations, special training programmes are arranged by TRTI to guide the tribal students appearing in various competitive examinations.

Youth Leadership Programmes

The TRTI conducts Youth Leadership Programmes to provide information on the schemes being implemented by TDD for economic upliftment of tribal people and to discuss difficulties faced by tribals in implementation of various schemes.

Audit scrutiny revealed that during 2009-14, TRTI planned 1,049 number of pre-service and in-service training programmes for 35,950 participants from tribal communities for which a provision of ₹ 4.29 crore was made. Of the 1,049 training programmes planned, only 638 training programmes were conducted which was attended by 18,409 participants out of 35,950 planned. An expenditure of ₹ 1.32 crore was incurred against the provision of ₹ 4.29 crore.

The Commissioner, TRTI, stated (May 2014) that shortage of participants during 2011-12 and 2012-13 and non-receipt of central grants during 2013-14 resulted in shortfalls in training.

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[52] Amravati, Nagpur, Nashik and Thane

The TRTI has one training hall with capacity to accommodate 40 participants and residential arrangement for 30 participants. The feedback given by the trainees after completion of a course held for Head Masters on School Management during July-August 2012 revealed inadequacies in basic facilities such as, provision of drinking water, cleanliness of rooms and toilets, inadequate bedding materials, *etc*. It was also seen that TRTI disbursed ₹ 1.16 crore during 2009-11 to Ashram school teachers through eight training centres[53], under the Custodial Care Training Programme. However, utilisation certificates for expenditure of ₹ 0.82 crore were not furnished by the Kendra Pramukhs (Head) of the Ashram schools to TRTI, despite a lapse of more than three years.

Further, the General Administration Department formulated a training policy (September 2011) for which YASHADA was designated as an apex body. As per policy, a Training, Planning and Monitoring Cell (TPMC) was required to be established by TRTI for planning the training programmes, assess the impact of training; prepare training modules and list of employees to whom training was to be imparted. However, TPMC was not established as of May 2014.

The Commissioner, TRTI stated (May 2014) that the details of the pending utilisation certificates would be obtained and the TPMC would be established at the earliest. Information on staff to be trained were being obtained and the training modules would be prepared at the earliest. The Principal Secretary admitted (September 2014) that there were shortcomings in conducting the training programmes.

3.3.8 Issuance of Scheduled Tribe Validity Certificates

The Maharashtra State Legislature passed (May 2001) the Scheduled Castes, Scheduled Tribes, De-notified Tribes (Vimukta Jatis), Nomadic Tribes, Other Backward Classes and Special Backward Category (Regulation of Issuance and Verification of) Caste Certificate Act, 2000. The Rules were notified in June 2003. Eight TVCs were established in the State to verify the Scheduled Tribe certificates issued by the competent authority and issue validity certificates.

The GoM established (August 2010) a High Level Caste Certificate Verification Committee to recommend ways to clear the pending scrutiny cases with eight TVCs. The Committee in its third meeting (February 2012) *inter alia* recommended creation of 148 additional posts to strengthen the eight TVCs. However, based on the recommendations of another High Level Expert Committee constituted under the chairmanship of the Chief Secretary, the GoM sanctioned (March 2012) 87 new posts for eight TVCs.

Audit scrutiny revealed that only 29 posts (33.33 *per cent*) of the 87 posts sanctioned were filled. Further, though the Act stipulated a time limit to be set for verification and grant of validity certificates by the TVC, the Rules notified by GoM in June 2003 did not prescribe any time limit. Consequently,

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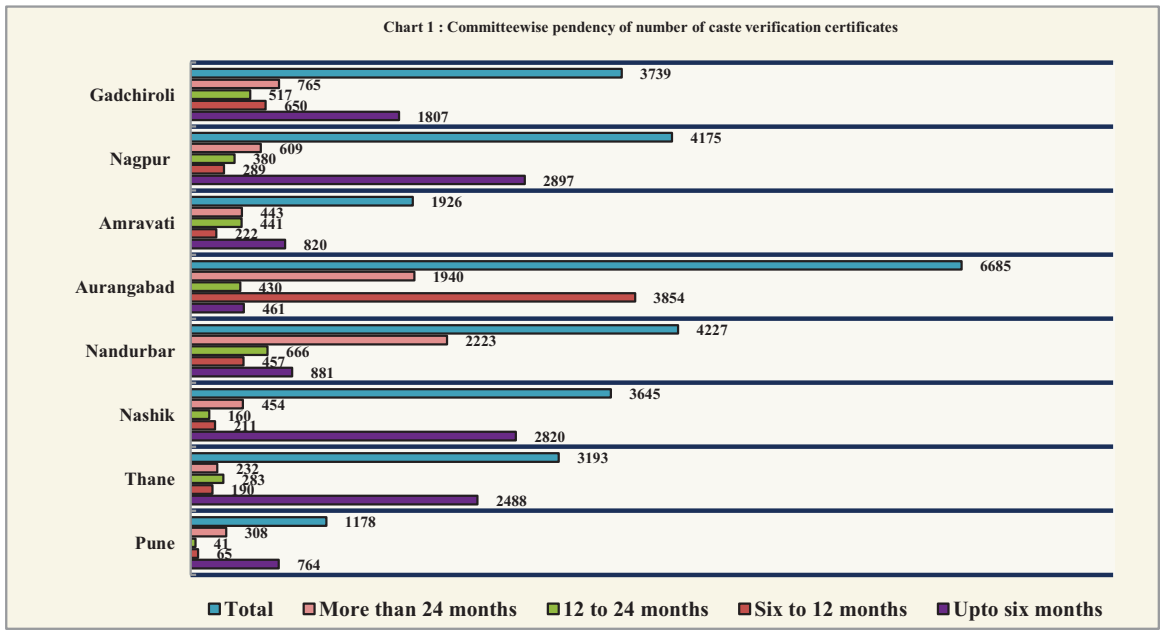
[53] Loy (Nandurbar); Pali (Thane); Vadeshwar (Pune); Asarbari (Nashik); Tembhusoda (Amravati); Kapra Babhalgaon (Yavatmal); Borgaon Bajar (Gondia); Khamancheru (Chandrapur)

there was a large pendency in the number of cases to be verified which stood at 28,768 as on June 2014. The details of cases received, verified and pending are given **Table 3.3.2**.

Table 3.3.2: Number of cases pending for verification by TVCs

Year	Opening Balance	Number of cases received	Total cases	Number of cases verified	Closing balance	Percentage of cases verified *vis-a-vis* total cases
2009	26975	36270	65254	35193	28052	53.93
2010	28052	49116	79178	41214	35954	52.05
2011	35954	62283	100248	82389	15848	82.19
2012	15848	44154	62014	39664	20338	63.96
2013	20338	57714	80065	44088	33964	55.07
2014 (upto June 2014)	33964	13512	47476	18708	28768	39.41
Source: Figures as on June 2014 furnished by TRTI						

The age-wise pendency of cases in eight regions is shown in **Chart 1**.



Source: Figures as on June 2014 furnished by TRTI

Chart 1 shows that the number of cases pending was highest in Aurangabad region which stood at 6,685 out of total 28,768 cases. Further, the number of cases pending for more than 24 months out of the total cases was in Nandurbar which stood at 2,223 cases.

Thus, huge pendencies in verification and issue of caste validity certificates deprived the eligible persons of the benefits under various tribal schemes, public employment, purchase or transfer of land from a tribal land owner, *etc*.

3.3.9 Delay in implementation of an application software

The TRTI decided (August 2003) to implement an application software namely Tribe Certificate Verification Information System (TCVIS) through National Informatics Centre for speedy disposal of tribe verification cases as per e-governance policy of GoM of October 2001. Under this project, NIC was to develop the software (TCVIS) to connect all the eight TVCs through

computer network, in order to exchange information relating to caste verification work. The software was to take care of previously decided cases, indicate pendency at various levels, back reference to decided cases, documents required from candidates, dates of hearing, *etc*. At the same time, website containing caste data was also required to be prepared and uploaded. The TCVIS application software was developed by NIC in 2008 without any charge. However, the software developed by NIC could not be used optimally due to non-availability of trained manpower, internet connectivity, *etc*. Consequently, YASHADA was tasked (January 2012) to carry out requisite modifications and additional software development, provide required hardware, manpower and connectivity for smooth functioning of TCVIS, training for officers and staff, *etc*. at an estimated cost of ₹ 3.43 crore for completion by 2014-15.

Due to limited use of the application software developed by NIC, only 1.56 lakh cases could be entered in the TCVIS database, out of total 3.8 lakh cases received by eight TVCs as of December 2012. Further, in view of additional software development/modifications carried out in the existing software by YASHADA, the hardware initially procured by TRTI in 2007 at a cost of ₹ 1.05 crore was rendered incompatible thus, necessitating procurement of new hardware. The hardware were not procured as of September 2014.

The Principal Secretary stated (September 2014) that the current TCVIS application required some modifications so that the outputs are system generated. He further added that in addition to system generated output, the turnaround time/predictability of the service given to clients were important aspects of the system and the TDD had requested YASHADA to carry out the modifications at the earliest.

3.3.10 Conclusion and recommendations

The Tribal Research and Training Institute (TRTI) conducted 12 research studies in the past 28 years since its inception in 1962 till 1990 while in the next 23 years up to December 2013 it conducted only six research studies. The TRTI conducted only one benchmark survey in 1999-2000 which has also lost its relevance due to significant increase in tribal population since then.

The TRTI may conduct benchmark survey for demographic and socio-economic profiling of the tribal population and supply the vital inputs to the State Government for effective planning of tribal welfare schemes.

The TRTI evaluated only 11 out of 171 schemes during 2009-12 and thus, largely failed to assess the impact of developmental programmes/schemes on the life of tribal people in the State.

The TRTI needs to augment its capacities and expertise in order to ensure that all the important schemes are evaluated for effective impact assessment.

There were significant shortfalls in conducting training programmes. Of the 1,049 training programmes planned by TRTI during 2009-14, only 638 training programmes were conducted which was attended by 18,409 participants out of 35,950 planned.

The TRTI may establish the training, planning and monitoring cell without delay for effective planning of training programmes, preparation of training modules and assessing the impact of training.

In the absence of any prescribed time limit, there were huge pendencies in verification and issue of caste validity certificates. The application software developed for speedy disposal of tribe verification cases could not be used optimally even after lapse of six years.

Timelines may be fixed for verification and issue of caste validity certificates which should be adhered to by the Tribe Verification Committees.

The matter was referred to the Government in August 2014; their reply was awaited as of December 2014.

Medical Education and Drugs Department

3.4 Avoidable expenditure

Failure of Sir J. J. Group of Hospitals, Mumbai to install capacitors to maintain the power factor resulted in avoidable expenditure of ₹ 85.12 lakh.

According to electricity tariffs of Brihan Mumbai Electric Supply and Transport Undertaking (BEST), whenever the average power factor[54] (PF) in a monthly bill is less than 0.90, penal charges shall be levied by the BEST on the consumer at the rate of two to 10 *per cent* of the amount of monthly bill. If the PF is more than 0.95, then incentive at the rate of one to seven *per cent* would be admissible to the consumer. Installation of capacitor[55] helps in improving/maintaining the PF above 90 *per cent* (0.90).

Scrutiny of records (May 2014) of the Dean, Sir J. J. Group of Hospitals, (Hospital) Mumbai revealed that the Hospital was a Low Tension consumer of BEST. The BEST levied a penalty of ₹ 85.12 lakh for the period January 2010 to February 2014 in respect of three electric supply connections as the PF during this period ranged between 0.63 and 0.89. Despite levy of PF penalty by BEST for more than four years, the Hospital did not take any action to install capacitors for maintaining the PF at 0.90 or above in order to avoid PF penalty.

Thus, non-installation of capacitors to maintain PF resulted in avoidable expenditure of ₹ 85.12 lakh.

The matter was referred to the Government in July 2014; their reply was awaited as of December 2014.

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[54] Power Factor is the ratio between the voltage and current. If the PF is less than one, the supply of current will be more with accompanying transmission losses

[55] Capacitor is a device used to store electric charge, consisting of one or more pairs of conductors separated by an insulator

Higher and Technical Education Department

3.5 Award of contracts without tendering

Eight Government organizations awarded contracts for information technology enabled services to Maharashtra Knowledge Corporation Limited, a non-Government entity, at a total cost of ₹ 18.47 crore without inviting tenders.

As per Rule 107 of Bombay Financial Rules, 1959, contracts should be placed only after inviting open tenders whenever practical and advantageous. The General Administration Department (GAD), Government of Maharashtra (GoM) also issued (October 2001) detailed guidelines for the Government departments regarding entrustment of information technology (IT) enabled works to empanelled Information Technology Solution Providers (ITSPs). The guidelines further provided that bids shall be invited from ITSPs based on the users' requirement documents.

The Higher and Technical Education Department (HTED), GoM decided (June 2001) to establish and operate Maharashtra Knowledge Corporation Limited (MKCL) under the Companies Act, 1956 with the primary objective of promoting IT enabled education programmes in the State of Maharashtra. MKCL was registered (August 2001) as a Public Limited Company under the Companies Act, 1956. As of August 2014, 80.80 lakh[56] shares (face value of ₹ 10 each) of MKCL were subscribed of which, 30 lakh shares (37.13 *per cent*) were held by GoM. The Directorate of Information Technology (DIT) under GAD included MKCL in the list of empanelled ITSPs in April 2003 which was valid till 30 June 2006. The DIT did not empanel any ITSPs including MKCL after June 2006.

Test check of records of eight Government departments/offices/autonomous bodies revealed that these Government departments/offices/autonomous bodies directly entered into 17 Memoranda of Understanding (MoU) with MKCL between June 2003 and May 2013 for providing various IT enabled solutions without inviting tenders, in violation of Bombay Financial Rules and Government's guidelines of October 2001. Total payments made to MKCL during April 2009 to March 2014 worked out to ₹ 18.47 crore. The details are given in **Table 3.4.2.1**.

[56] Shares subscribed by Universities: 27.40 lakh shares (33.91 *per cent*); Educational institutions 0.21 lakh (0.26 *per cent*); Directors and their relatives: 0.31 lakh (0.38 *per cent*); and others including individuals: 22.88 lakh (28.32 *per cent*)

Table 3.4.2.1: Details of works awarded to MKCL without inviting tenders

Sr. No.	Name of Government department/ office/auton-omous body	Type of work awarded (Number of MoUs signed and date)	Payment made to MKCL (2009-14)	Reasons for selection of MKCL as indicated in the records of Government department/office/ autonomous body	Clarification given by the Government department/office/ autonomous body
1.	2.	3.	4.	5.	6.
1.	Directorate of Technical Education (DTE), GoM	Provision of web-based application framework for admission to various courses. (Two MoUs in September 2009 & June 2011)	₹ 5.73 crore	(i) MKCL was empanelled as ITSP by GAD. (ii) MKCL provided similar services to University of Pune (UoP).	The DTE stated (March 2014) that MKCL was engaged as it was established by GoM and empanelled as ITSP by DIT.
2.	Maharashtra Council of Agricultural Education and Research (MCAER) (Autonomous Body)	Facilitation of admission process for various courses offered by MCAER in Maharashtra State. (One MoU in January 2008 valid till March 2013)	₹ 2.68 crore	(i) MKCL was empanelled as ITSP by DIT. (ii) It provided similar services to UoP. (iii) It has more than 3,500 centres all over the State and can provide services for admission at Taluka level.	Director General, MCAER stated (March 2014) that the work was awarded under the impression that the MKCL was a Government organization.
3.	University of Pune (Autonomous Body)	Provision of web-based application framework for registration and admission of external candidates to various graduate and post graduate courses and recruitment to various posts in UoP. (Three MoUs for admission process: June 2003 extended till 2012-13, February 2011 and April 2012 and one MoU for recruitment process in March 2013)	₹ 6.85 crore	It provided similar services to DTE, GoM for admission to engineering students.	The Registrar stated (April 2014) that the works were entrusted to MKCL as it had proven experience in the field of recruitment in various departments.
4.	Maharashtra Labour Welfare Board (MLWB), (Autonomous Body)	Facilitation of recruitment process for staff in the office of Commissioner, MLWB. (One MoU in February 2012)	₹ 0.08 crore	(i) MKCL was established by HTED. (ii) It had successfully carried out works related to recruitment for about 25 Government departments.	The Welfare Commissioner, MLWB stated (April 2014) that the work was awarded under the impression that the MKCL was a Government organization.
5.	Deputy Director of School Education (DDSE), GoM	Provision of web-based application framework for admission to Junior Colleges. (Four MoUs in April 2010, May 2011, May 2012 and May 2013)	₹ 2.13 crore	Work was awarded to MKCL as per the Government Resolution (GR) of 28 May 2009 wherein the School Education and Sports Department had issued instructions to award IT related works to MKCL.	DDSE stated (July 2013) that the work was awarded as per GR of May 2009.

1.	2.	3.	4.	5.	6.
6.	Directorate of Medical Education and Research (DMER), GoM	Facilitation of recruitment process for various posts in DMER. (One MoU in February 2009)	₹ 0.35 crore	MKCL was a high-tech initiative of GoM in design, development and delivery of e-Learning, e-Governance, e-Empowerment solutions and services.	The Director, DMER stated (February 2014) that the work was awarded under the impression that the MKCL was a Government organisation.
7.	Public Works Department (PWD), Nashik, GoM	Facilitation of recruitment process for staff in Public Works Department, Nashik. (One MoU in February 2012)	Informa-tion awaited	MKCL was a high-tech initiative of GoM in design, development and delivery of e-Learning, e-Governance, e-Empowerment solutions and services.	Reply awaited.
8.	Collector, Solapur, GoM	Facilitation of recruitment process for various posts in the offices under the District Collector. (Three MoUs in September 2011, April 2012 and May 2013)	₹ 0.65 crore	MKCL was a high-tech initiative of GoM in design, development and delivery of e-Learning, e-Governance, e-Empowerment solutions and services	The office of the District Collector stated (March 2014) that the matter was being examined.

As can be seen from **Table 3.4.2.1**, except for one MoU signed by UoP in June 2003 (Sr. No. 3 of Table 3.4.2.1) which was within the validity of empanelment of MKCL, the remaining 16 MoUs were signed after the expiry of the validity of empanelment (June 2006) without inviting tenders. Further, three out of eight Government organisations mentioned above were under the impression that MKCL was a Government entity. Audit also observed deficiencies in MoUs and services rendered by MKCL as indicated below:

- Selection of 27 candidates for recruitment in the post of Engineering Assistant in PWD, Nashik was to be done on the basis of written and practical examinations followed by interviews, as per GR of October 2007 issued by GAD. However, while publishing list of eligible candidates for interview, MKCL also declared the marks secured by the candidates in written examination, which was otherwise to be kept confidential. Subsequently, based on the advice (October 2012) of the Government Pleader, PWD recruited the candidates on the basis of marks secured in written examination, without conducting interviews (Sr. No. 7 of Table 3.4.2.1). The MoU did not contain penalty clause for deficiency in services provided by MKCL.
- For appointment in the post of Accounts and Audit Officer in MLWB, second class commerce graduates with subject Advanced Accountancy and Auditing were eligible to apply. However, the statement of marks of the appointed candidate for Bachelor of Commerce (Part III) did not indicate Advanced Accountancy and Auditing as one of the subjects having been opted by him. Similarly, for the post of Assistant Accounts Officers, the two candidates recruited were not first class commerce graduates as per criteria. The MLWB accepted (April 2014) the

irregularities and stated that appropriate action would be taken after proper verification (Sr. No. 4 of Table 3.4.2.1). The MoU did not contain penalty clause for deficiency in services provided by MKCL.

- As per GR of October 2001 issued by GAD, the software codes and Intellectual Property Rights (IPR) should be transferred by the ITSPs to the Government after completion of services. In 15 out of 17 MoUs (except DTE; Sr. No. 1), there was no provision for transfer of software codes and IPRs to Government.

As a number of Government organisations are awarding IT enabled contracts to MKCL on nomination basis, GoM needs to issue fresh instructions to all the departments explicitly defining the status of MKCL and also re-emphasise the validity of competitive bidding in public procurement and services for transparency and probity in public expenditure.

The matter was referred to the Government in August 2014; their reply was awaited as of December 2014.

Housing Department

Maharashtra Housing and Area Development Authority

3.6 Heavy financial burden due to non-revision of service charges

The Mumbai Housing and Area Development Board incurred a financial burden of ₹ 262.65 crore due to non-revision of service charges for providing common services to the tenants.

The Mumbai Housing and Area Development Board (Board), an autonomous body, recovers from its tenants in various housing colonies charges for common services, such as, water supply, electricity, sweeping, repairs and maintenance, in addition to recovery towards non-agricultural assessment charges, lease rent and municipal taxes, in the form of service charges.

Mention was made in paragraph No. 6.17 of the Report of the Comptroller and Auditor General of India for the year ended 31 March 2000 (Civil), Government of Maharashtra regarding non-revision of service charges resulting in extra expenditure of ₹ 7.97 crore during the period 1994-95 to 1996-97. Audit observed that the Board continued to assess the service charges at the rates fixed in 1993-94 (pre-revised rates) and incurred heavy financial burden due to non-revision of rates, as discussed in the succeeding paragraphs.

The Board decided (May 1998) to revise the service charges with effect from April 1998 based on the actual payment made by the Board to the service providers[57] during the year 1997-98 after adding 15 *per cent* towards

[57] Municipal Corporation of Greater Mumbai (MCGM) and Bombay Suburban Electric Supply

establishment cost. In view of the protests from the people's representatives and representatives of tenants, the Government stayed (December 1998) the revision for three months and constituted (February 1999) a study group[58] to take a final decision on the matter of increase in the rates of service charges. The study group recommended (November 1999) recovery of service charges at the old rates of 1993-94, except for water and electricity charges which were to be recovered at the rates charged by the respective service providers.

The recommendation of the first study group was also opposed by the people's representatives and representatives of tenants. As a result, the Chief Minister in a meeting held in August 2002 recommended the constitution of another study group to assess the proposed increase in the service charges and finalize the rates of service charges. Accordingly, the Government constituted (November 2002) the second study group which recommended (December 2002) service charges to be reduced by 50 *per cent* of the revised rates proposed from April 1998 in respect of services exclusively provided by the Board *viz.,* maintenance of pump house, salary of pump operator, emergency repairs of tankers, salary of sanitation staff, material required for sanitation, *etc*. Though, the Board reduced (February 2003) the rate of these services by 50 *per cent*, the Chief Minister directed (December 2003) the Board to continue collecting service charges at pre-revised rates till reduction of municipal taxes by 50 *per cent* by the MCGM and imposed a stay on recovery of service charges and taxes at higher rates.

However, MCGM neither reduced the rates of municipal taxes nor did the Government revoke the stay despite request by the Board from time to time[59] in view of recurring losses incurred by it. Consequently, the Board continued to recover the service charges from 1997-98 onwards at the pre-revised rates fixed in 1993-94. Audit observed that during 1997-98 to 2013-14, the Board incurred an expenditure of ₹ 646.37 crore in providing common services to the tenants. However, it billed the tenants to the extent of only ₹ 383.72 crore thus, leaving a deficit of ₹ 262.65 crore which had to be paid by the Board to the service providers.

Thus, non-revision of services charges by the Board from April 1998 in effect led to granting of implicit subsidy to the tenants and consequent financial burden of ₹ 262.65 crore on the Board.

The matter was referred to the Government in June 2014; their reply was awaited as of December 2014.

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[58] Consisted of 15 members with Minister of Housing as Chairman, 13 members and one invitee

[59] February 2005, January 2010 and January 2012

Home Department

3.7 Avoidable payment of interest

Failure of Maharashtra Maritime Board to pay the statutory dues as per the consent terms within the prescribed period resulted in an avoidable payment of interest of ₹ 84.44 lakh.

The Maharashtra Maritime Board (MMB), an autonomous body of Government of Maharashtra, took on lease (December 1996) an area of 5,000 sqft in the Indian Mercantile Chambers building in Mumbai (property) from the Oriental Insurance Company Ltd. (OICL) for a period of 15 years.The building was constructed by OICL on a plot of land leased from the Mumbai Port Trust (MbPT) and was occupied by eight occupants including MMB. The said premises was occupied by MMB as per the consent terms dated 20 September 2005 made before the Bombay High Court. Clause 3 of the consent terms stipulated payment of monthly compensation at the agreed terms besides payment of present and future taxes, electricity, water charges, cess, *etc*. to the Municipal Corporation, Government and/or other authorities.

Scrutiny of records (February 2014) of Chief Executive Officer, MMB revealed that OICL raised a demand (May 2006) of ₹ 5.04 lakh on MMB on account of arrears of lease rent[60] paid by it to MbPT. The OICL also demanded (December 2006) the share of property tax[61] (₹ 22.95 lakh *per annum*) due to increase in rateable value of the property for the period from April 2005 to September 2006 and service tax[62] of ₹ 1.25 lakh in May 2008 due to introduction of service tax by Government of India from June 2007. However, MMB did not pay the statutory dues despite issue of repeated reminders by OICL between August 2006 and June 2008. The MMB objected (November 2006) to the demand of arrears of lease rent raised by OICL on the ground that the same was not payable as per the consent terms.

Upon failure of MMB to pay the dues, the Estate Officer[63], OICL issued (May 2009) a show cause notice to MMB seeking justification as to why an order to pay the arrears of dues along with simple interest should not be made. The MMB contested (September 2009) the exorbitant demand of property tax amounting to ₹ 22.48 lakh raised by OICL on the plea that it was occupying an area of 5,000 sqft only, of the total available area of 65,095.96 sqft. As of 31 March 2009, the outstanding amount payable by MMB to OICL on account of

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60 Of the total arrears of ₹ 65.61 lakh paid by OICL to MbPT (May 2006), proportionate arrears of lease rent of ₹ 5.04 lakh for the period 01 November 1990 to 30 September 2004 pertained to MMB

61 Original property tax of ₹ 35.68 lakh *per annum* demanded (December 2006) by the Municipal Corporation of Greater Mumbai (MCGM) from OICL for the entire building was under dispute with regard to fixation of rateable value of the property for calculating property tax. The dispute was resolved in January 2008, resulting in the reduction of demand of property tax to ₹ 24.74 lakh *per annum* with proportionate reduction in the demand from ₹ 22.95 lakh to ₹ 22.48 lakh *per annum* from MMB (April 2008)

62 For the period June 2007 to March 2008

63 Appointed under Section 3 of the Public Premises (Eviction of Unauthorised Occupants) Act, 1971

property tax, lease rent and service tax (principal plus interest) stood at ₹ 1.18 crore[64].

After obtaining legal advice in February 2011, MMB agreed (November 2011) to pay the dues and requested OICL to waive off the interest on the outstanding amount. MMB also requested OICL to extend the lease period expiring in November 2011, by 15 years. The OICL, however, did not accede to the request of MMB and demanded (03 May 2012) the outstanding statutory dues of ₹ 2.69 crore including interest of ₹ 83.38 lakh up to 30 April 2012. The MMB cleared the dues only on 09 May 2012 as a result, additional interest of ₹ 1.06 lakh for eight days (01 May 2012 to 08 May 2012) was also paid. The MMB could have avoided the interest liability by making payment under protest pending resolution of the dispute.

Thus, despite having a clear clause in the consent terms, MMB failed to pay the dues within the prescribed period, resulting in avoidable payment of interest of ₹ 84.44 lakh[65].

The matter was referred to the Government in July 2014; their reply was awaited as of December 2014.

Water Supply and Sanitation Department

Maharashtra Jeevan Pradhikaran (MJP)

3.8 Unfruitful expenditure on a water supply scheme

Maharashtra Jeevan Pradhikaran failed to commission a water supply scheme even after 13 years and an expenditure of ₹ 25.39 crore due to faulty design of the balancing tank thus, depriving piped drinking water supply to the beneficiaries of 10 villages in Ahmednagar district.

The Water Supply and Sanitation Department (Department), Government of Maharashtra accorded (November 1998) administrative approval for construction of a regional rural water supply scheme (Scheme) in Ahmednagar district at a cost of ₹ 15.03 crore[66]. The Scheme envisaged supply of piped drinking water to a population of 17,574 in 10 villages[67] from Pravara Right Bank Canal (Pravara RBC). The work was awarded (January 1999) to M/s V.M. Matere, Pune (contractor) at ₹ 9.51 crore (10.10 *per cent* below the estimated cost of ₹ 10.58 crore). The work was to be completed within 30 months (July 2001). The scope of the work *inter alia* included construction of a balancing tank (BT) of 309 million litre capacity which was to serve as a

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64 Principal amount - ₹ 96.88 lakh (property tax: ₹ 89.91 lakh; lease rent: ₹ 5.04 lakh; service tax: ₹ 1.93 lakh) and Interest - ₹ 20.65 lakh (property tax: ₹ 18.83 lakh; lease rent: ₹ 1.56 lakh; service tax: ₹ 0.26 lakh)

65 ₹ 83.38 lakh + ₹ 1.06 lakh

66 (i) First Revised Administrative Approval (RAA) was granted in August 2003 for ₹ 22.86 crore and (ii) Second RAA was granted in November 2010 for ₹ 25.04 crore

67 Panodi, Pimparne, Ambhore, Digruss, Malunje, Hangewadi, Shedgaon, Khali, Zarekathi and Jakhori

primary storage point to store the water drawn from Pravara RBC for supply to the villagers, after purification.

Scrutiny of records (April 2014) of the Executive Engineer (EE), MJP, Urban and Rural Scheme Division, Sangamner, District Ahmednagar revealed the following:

- The Scheme though stipulated for completion by July 2001 remained incomplete as of November 2014 mainly due to change in location of BT, design problems with BT, delay in supply of electricity by MSEB[68], diversion of water from Pravara RBC by the Water Resources Department for other schemes as per rotation schedule, paucity of funds, delay in receipt of pipes for distribution network, delay in testing of BT *etc*. This led to increase in cost of work for which two revised administrative approvals were accorded in August 2003 (₹ 22.86 crore) and November 2010 (₹ 25.04 crore). Besides, MJP granted nine extensions to the contractor from time to time up to September 2012. An expenditure of₹ 23.59 crore was incurred on the Scheme as of July 2014 including ₹ 18.16 crore paid to the contractor.
- As per the tender, the design of BT was to be supplied by MJP. However, the design of BT was prepared and submitted (October 1999) by the contractor at the request of MJP which was approved by MJP in November 1999. The construction of BT was completed in March 2005. However, BT could not be tested as MSEB did not provide electricity due to arrears in payment of electricity charges by the Gram Panchayat. Meanwhile, in view of failure of similar BTs constructed under other schemes in the Ahmednagar district, the Member Secretary, MJP instructed (December 2007) the MJP Division, Sangamner to get the design of the existing BT checked from National Institute of Technology, Nagpur (VNIT). Accordingly, MJP consulted (December 2007) VNIT for checking the RCC design of the BT for stability. The VNIT, considering the stability of BT, recommended (July 2008) safe depth of water up to 1.90 meters only against the design depth of five metres. However, no action could be taken against the contractor for the faulty design of BT as the same was approved by MJP.
- During testing of BT in January 2009, MJP observed heavy leakage at the rate of 18 lakh litres per day on filling the BT only up to 1.70 metres. Subsequently, a technical consultant appointed (April 2010) by MJP noted that the type of rock in the adjoining area of the BT was not useful for foundation of water retaining structures and the rock below the foundation of the base slab was porous. The consultant concluded that the BT was structurally unstable and recommended water proofing to arrest the leakages. Accordingly, MJP awarded (March 2011) water proofing work to the same contractor at a cost of ₹ 1.08 crore as an extra item. The work was completed in March 2012 at a cost of ₹ 0.92 crore. However, leakage at the rate of 15 lakh litres per day continued even after water proofing work.

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[68] Maharashtra State Electricity Board

Thus, a water supply scheme which was initially envisaged to be commissioned in July 2001 at an estimated cost of ₹ 15.03 crore remained incomplete even after 13 years and an expenditure of ₹ 25.39 crore, due to faulty design of BT. Due to delay in implementation of the Scheme, the beneficiaries of 10 villages were deprived of piped drinking water and had to remain dependent on bore wells, water tankers and existing water supply schemes to fulfil their drinking water needs.

The EE, MJP, Sangamner Division stated (September 2014) that in order to complete the Scheme including repairs to the BT, an additional amount of ₹ 2.75 crore would be required for which revised sanction will be necessary.

The matter was referred to the Government in July 2014; their reply was awaited as of December 2014.

(MALA SINHA)
Principal Accountant General (Audit)-I,
Maharashtra

Mumbai,
The 25 March, 2015

Countersigned

(SHASHI KANT SHARMA)
Comptroller and Auditor General of India

New Delhi,
The 30 March, 2015