

URBAN DEVELOPMENT DEPARTMENT

3.5 Information Technology Review on collection, accountal and utilisation of charges collected by Nagpur Improvement Trust, Nagpur under Gunthewari Act, 2001

Highlights

The review was conducted to see whether the information generated through Information Technology system as regards money receipts and its utilisation was adequate, accurate, reliable and user friendly to management for decision making. Integrity of data in the system was, however, doubtful. No Information Technology security policies were in place.

Incorrect reports were generated as the plot area did not form the basis of the demand amount / amount paid.

(Paragraph 3.5.9)

The Information Technology system was fraught with risks of generating incorrect reports due to typographical errors in data entry.

(Paragraph 3.5.9)

Integrity of data in the system is doubtful. No Information Technology security policies/ procedures were in place exposing the system to risks of logical access by unauthorised users.

(Paragraphs 3.5.9 and 3.5.13)

Development works were carried out prior to recovery of development charges and development charges were determined without considering development works existing prior to the enactment of the Act. Besides there was no linking to layout-wise deposits and expenditure, as required under the Act.

(Paragraph 3.5.15)

3.5.1 Introduction

The Maharashtra Gunthewari Developments (Regularisation, Upgradation and Control) Act, 2001 (Act) was enacted by the State Legislature for the regularisation and upgradation of certain Gunthewari developments *i.e.*, plots formed by unauthorisedly sub-dividing privately owned land with the buildings on the plots. The Act envisaged collection of development charges and compounding charge at Rs 16 per square foot (sq.ft.) on plot area plus regularisation charges at Rs 6 per sq.ft. on built up area on the plot, if any. It was proposed to regularise a total of 572 such unauthorised developments (layouts) in first phase and 1,900 unauthorised developments (layout) later on. The development charges were levied for upgradation of basic infrastructural facilities like roads, drainages and drinking water.

The “single window scheme” being followed by Nagpur Improvement Trust (Trust) prior to enactment of the Act for receiving applications between 12 February and 12 April 2001 for regularisation of 572 Gunthewari development layouts was further extended for regularisation of 1,900 Gunthewari developments between June and August 2002. At the end of the scheme 1,69,789 applications (50,276 in respect of 572 developments and 1,19,513 in respect of 1,900 developments) were received and processed after adjusting initial amount of application money.

3.5.2 Organisations set-up

The Trust was authorised under the Act *ibid* as the “Planning Authority” for regularisation and development of the unauthorised layouts. While the Chairman of the Trust was overall in-charge of the Gunthewari Developments, the works were being executed by the Executive Engineers under the supervision and control of the Superintending Engineer. The Assistant Engineer (Project / Computer) is overall in-charge of Information Technology (IT) system.

3.5.3 Audit objectives

The review was conducted with the following objectives:

- to review the system of collection of money from the land holders and accounting thereof;
- to review the adequacy of controls, including IT security built in the IT system and bring out areas of risk, if any and
- to examine whether the information generated through the IT system is adequate, accurate and reliable for use by the Management for decision making.

3.5.4 Audit criteria

The audit criteria were as follows:

- Provisions of Maharashtra Gunthewari Developments (Regularisation, Upgradation and Control) Act, 2001;
- Prudent practices followed world wide in planning, design development and implementation of IT systems and
- Completeness, integrity and accuracy of data entry, analysis and output.

3.5.5 Scope of audit

The review was conducted based on a written request received from the Government of Maharashtra to audit the effectiveness of computerised system of collection of money from the land holders of unauthorised layouts, its accounting and utilisation for development works.

The review involved scrutiny (June 2005) of the money received and spent by the Trust between April 2001 and June 2005 using the IT system.

3.5.6 Audit methodology

The review involved scrutiny of data relating to transactions made through the IT system. The analysis was carried out using PL-SQL (programming language / structured query language) and IDEA (Interactive Data Extraction and Analysis). The extraction and data analysis was conducted over the entire database. In cases where the transactions were conducted manually, manual verification was conducted.

Audit findings

3.5.7 IT System:

The system developed for Gunthewari Scheme of regularisation named GRAND (Gunthewari Regularisation and Development) was installed on 14 March 2003. However, out of the eight modules (Recovery, Establishment, Accounts, Law, Technical, Housing, 572* and Land acquisition and valuation) developed, only one technical module of Accounts was put to use as of June 2005.

3.5.8 Accounting system

The development and regularisation charges of the Gunthewari development or layouts were collected in the form of cash and demand draft at the various collection counters of the Union Bank of India and Cash counter at the Trust in Nagpur city. Daily receipts of all such counters were posted in the "Daily collection Report" (Name-wise and Head-wise) and tallied with the daily collection as per bank scrolls and cash receipt counters of the Trust. Further, it was bifurcated in the Consolidation Register head-wise and section-wise duly attested by the Recovery Officer-in-charge and then posted finally in the cash book by classifying into various Heads of Account.

* Module developed for the section named 572 section

3.5.9 Non-validation of database

Incorrect reports were generated as the plot area did not form the basis of the demand amount / amount paid

The system calculates demand amount based on input parameters such as plot area and construction area. It was seen that in 1,274 cases the plot area did not form the basis of the demand amount/amount paid. It was also seen that in one case while the plot area was zero, the amount demanded and paid was Rs 23,000. As against a maximum of 2,472 (572 + 1,900) layouts, the database of plot area showed 4,335 layouts.

In 1,543 cases in 1,900 layouts, the amount recovered from the plot owners exceeded the amount due as per the Act by Rs 1.39 crore.

The IT system was fraught with risk of generating incorrect reports due to typographical errors in data entry

A scrutiny of database revealed that an absurd demand of Rs 8,91,91,911 against the plot area of 139.35 square metre (sq.mt.) and construction area of 137.971 sq.mt. was raised. Further scrutiny in cases of “*Mouza Nari*” area revealed that in 296 cases field of the ‘initial deposit amount’ depicted other than the amount collected initially from the applicant. In another case the initial deposit was entered as Rs 1,20,42,001.

The Trust stated that the entry of Rs 1,20,42,001 and of Rs 8,91,91,911 were typographical errors. Further the difference existed mostly in old cases where data entry was in progress. In these cases manual demands were issued to the applicants at the time of inception of regularisation scheme. In order to allow data entry in respect of these cases, facilities were provided to edit the data. In other cases the demand note was issued on the basis of the information of plot area provided by the applicant. The exact amount, however, would be mentioned in the regularisation letter which is issued after detailed scrutiny of the case. Later, the areas coming under road widening, road tangents, excess built up area and area affected by proposed road alignment are deducted from the plot area and built up area. Therefore, a provision was made to alter the plot area as well as construction area.

Non-deduction of area on account of road widening and road tangents at the time of raising of demand resulted in recoveries in excess. Such amounts are returned to concerned plot owners as and when demanded.

The reply is not tenable as (i) the data entry into the system lacked integrity (completeness and correctness) because of weak input validation controls; (ii) the typographical errors which remained uncorrected were considered while generation of various reports used for MIS; (iii) the correct amount of initial deposit would never be available through the system as it included other amounts collected initially from the applicants and (iv) the data was fraught with the risk of manipulation as the important fields remained open for modification.

3.5.10 Generation of incorrect revenue figures

The details of receipts maintained manually should agree with those figures available in the IT system. It was, however, observed that there were differences in the figures maintained manually by the Accounts Section and those system-generated figures in respect of revenue collection by NIT:

(Rupees in crore)

Year	Receipts as per accounts section		Receipts as per IT System	
	572 layouts	1900 layouts	572 layouts	1900 layouts
2000-01	1.59	NA	0.25	NA
2001-02	58.93	NA	53.42	0.03
2002-03	34.11	14.23	37.30	0.83
2003-04	20.31	19.56	9.79	27.29
2004-05	12.78	23.86	12.31	22.44
Total	127.72	57.65	113.47	50.59

The Trust replied that the data entry in respect of all the transactions of old cases was not completed and the cash account (in Account section) was maintained as per actual receipts. It was further stated that some of the activities were yet to be computerised.

The reply was not acceptable, as the system figure for 1,900 layouts in 2003-04 was more than the figure given by Accounts section. The completeness and correctness of the data in the system and the system-generated reports were thus not realistic.

3.5.11 Date validation not possible

As per the procedure for regularisation of plots, applications were invited from the plot owners with an initial deposit of Rs 1,000. After due scrutiny by Building Engineer taking into account parameters such as plot area, construction area, khasara maps and layout plans, demand notices were issued to the plot owners.

Analysis of this database revealed that in case of 1,900 layouts the demands were issued on the date of receipt of application in 164 cases. It was also seen that in some cases demands were issued prior to receipt of applications as listed at **Appendix XL**.

The department stated that the date of receipt of application is not stored by the system. The field for application date refers to the date of receipt of initial deposit and the demand date was dependant on the system date captured by the computer itself.

The reply is not acceptable as the field name 'Application Date' was misleading as it was stated to contain date of receipt of initial deposit. Further, in the absence of date of application in the database it was not possible to work out the period required for disposal of application and thus the system

lacked transparency in disposal of cases. Also the system was supposed to take care of recording of correct data and time of the transactions.

3.5.12 Incomplete data

It was observed in audit that the field for layout area in the database was left blank. As such it was not possible to link this area with sum of all plot areas in the layout after considering areas earmarked for roads and public utility places.

The above position indicates that (October 2005) the system runs the risk of (i) likely fraudulent manipulation of data; (ii) incorrect data due to human error and (iii) not assisting the management adequately in decision making.

3.5.13 IT security

Considering the vulnerability of IT systems to various threats, it was necessary to: (i) identify the risk involved in the system; (ii) identify critical data which would need enhanced security; (iii) define a security policy which would ensure confidentiality, integrity and availability of data and (iv) documentation of the security policy.

Audit noticed that the Trust did not formulate any security policy. Assessment of practices followed at the time of audit revealed the following:

- Security levels required to determine the sensitive/critical applications were not identified.
- It was not mandatory for the users to change passwords at periodical intervals and the system also did not force them to do so. There was no restriction on the length of the passwords used.
- No register of back-ups was maintained and there was no system of storing the back-up off-site. It was stated by the Trust that the database was never restored using back-up because the system has never failed. It was further stated that at present there is no standby arrangement for servers and clients. There was no disaster management plan in the event of a major disaster. As such the system was fraught with the risk of collapse at the time of major failure/disaster.
- The vendor functioned in the capacity of the System Administrator who restricts the access privileges to the users under the guidance of the Assistant Engineer (Projects/Computers). There was, however, no documentary evidence of the ‘guidance’ and therefore risk of the privilege given being extended to every person.

The department stated that the Trust, as of now, does not have a security policy. At present the rights and privileges are managed by the representative of the solution provider as per oral instructions of the Assistant Engineer

No IT security policies / procedures were in place exposing the system to risks of logical access by unauthorised users

(Project/Computers), concerned Building Engineers and Executive Engineers. This procedure is now being changed and user identification (ID) and access privileges will be created upon the written request of the concerned Head of Department.

3.5.14 Change management procedures not in place

In order to ensure that the changes are duly authorized and smoothly implemented, it is necessary to define policies and procedures, which should be followed scrupulously. The Trust does not have any such policy for change management procedures. As such it was not possible to track the changes made to the system from time to time. The software was under annual maintenance contract (AMC) with M/s. ADCC. Though the source code of the software is with the Trust, the day to day changes required in the system are carried out by the AMC vendor. There was neither a documented approval to such changes nor list of changes made was available. Absence of such documentation present potential risk of making changes to basic data like demand notes after their issue.

3.5.15 Development charges of layouts

As per provisions of Section 6(1) and 6(2) of Maharashtra Gunthewari Act, (Act), 2001 the amount accruing to the Planning Authority on account of compounding fee shall be kept by the Planning Authority in a separate head of account, layout-wise and shall be utilised for on site infrastructure in the layout. The Act, further provides for on site development of the layout in proportion to the amount of compensation received by the Planning Authority.

It was, however, observed that layout-wise accounts were not maintained in respect of any of the 213 completed layouts. Instead, accounts were maintained for each *Mouza**. The position of deposits received, expenditure incurred and percentage of excesses and savings in respect of 213 completed layouts is shown in **Appendix XLI**. In particular, it was seen that in 32* layouts in two *Mouzas* there was excess expenditure of 67 per cent to 68 per cent on development works as compared to the total deposits received. In 18* layouts in two other *Mouzas* there were savings of 67 per cent to 68 per cent against the deposits received. Thus, there was no linking of layout-wise deposit and expenditure as required under the Act.

In reply the Trust stated that, the excess expenditure was due to non-recovery of development charges amounting to Rs 2 crore from defaulters and execution of major off-site development. The Trust attributed reasons for savings to the existence of developmental works prior to enactment of the Act.

* *Mouza* - Marathi word for a village

* Dighori -28, Nari - 4

* Khamla - 3, Parsodi - 15

The reply of the Trust is not acceptable as expediency of taking of developmental works before recovering development charges of Rs 2 crore from the defaulters has not been explained. Further, the existence of development works prior to enactment of the Act, should have been considered while determining the development charges/compounding fees.

3.5.16 Forfeiture of application money

Section 24 of the Act provided for making regulations consistent with the Act and the Rules made there under, to carry out the purposes of the Act with previous approval of the State Government.

The Act, further provided for submission of application by plot holders in unauthorised layouts for regularisation of Gunthewari Developments accompanied by: (i) proof of ownership of plot, (ii) layout and construction of maps and (iii) demand draft of the specified amount. An application money of Rs 1,000 per plot per applicant, adjustable in future demand, was accordingly fixed and collected with applications for regularisation of plots in 572 layouts and 1,900 layouts.

Of the total 1,69,789 applications received, 8,553 applications were rejected as their plots were under Development Plan reservations (ring railways and public utility land) and entire amount collected at the rate of Rs 1,000 per plot per applicant aggregating to Rs 85.53 lakh was forfeited and not refunded to the plot holders. It was noticed that the Trust did not obtain prior approval of the State Government before forfeiture of application money.

The Trust stated that under "single window scheme" it was categorically stated that the application money shall not be refunded in case of rejection of regularisation and therefore the question of its refund does not arise.

The reply is not tenable as the decision to forfeit amount of Rs 85.53 lakh was taken without the prior approval/concurrence of the Government, which was required to be obtained as per the Act.

3.5.17 Conclusions

The basic objective of computerisation of bringing the efficiency and effectiveness in the operation could not be met due to insufficient preventive controls to avoid the instances of poor validation of data fields, errors in the data and risks of security. As a result of all these, audit is of the opinion that the information generated through the IT system is unreliable and fraught with the risk of incorrect decision making.

On collating the audit objectives with the results obtained, audit is of the view that the IT system, saddled with security risks, is fraught with the potential risks of doubtful data integrity. Any reports generated out of it cannot be taken as authorised unless independently examined manually. Since the reports

generated through IT system were not reliable, a substantive testing done manually indicated diversion of collections between layouts, no linkage of layout-wise deposits and expenditure.

3.5.18 Recommendations

- The Trust should get a validated database on the area of all the layouts/plots to be regularised. Necessary surveys required in this regard should be completed at the earliest.
- The Trust should have a well defined, documented IT strategy commensurate with their needs and short-term and long-term goals.
- The Trust should have well defined and documented IT security policy identifying the personnel accountable at various stages.
- There should be proper allocation of responsibilities as regards acquisition and management of IT assets including hardware, software and data coupled with well-defined physical and logical access controls.
- The system-generated figures should be reconciled with the actuals at the earliest.
- Layout-wise linking of deposits and expenditure for execution of development works as required under the Act should be ensured.

The matter was referred to the Secretary to Government in July 2005. Reply had not been received (December 2005).