

**3.2. Review on “Information Technology Audit of Motor Vehicles Department”**

**Highlights**

\* **Government decided in 2001 to computerise the Motor Vehicles Department. Only one out of the seven offices in Thiruvananthapuram district scheduled in phase I is computerised. Service providers for computerisation of remaining offices under build, operate, maintain and transfer mode are yet to be selected**

*(Paragraph 3.2.3.)*

\* **Several essential provisions are lacking in the software – SMART MOVE developed by NIC**

*(Paragraph 3.2.4.)*

\* **Several irregularities noticed in licence data due to inadequate input control**

*(Paragraph 3.2.5.)*

\* **Information generated from the system could not be authenticated as registration data was not properly validated**

\* **Several vehicles with duplicate engine number and chassis number were entered in the registration data**

\* **Incorrect/non accounting of remittance of fees/tax at FRIENDS centre**

*(Paragraph 3.2.6.)*

\* **Information security was not adequate for smooth functioning of the system as there was no documented password policy, business continuity planning**

*(Paragraph 3.2.7.)*

**3.2.1. Introduction to computerisation in Transport Department**

The Motor Vehicles Department, with its head office at Thiruvananthapuram, functions under the Transport Commissioner and is responsible for enforcement of laws governing the registration of motor vehicles, issue of driving licences, permits, collection of vehicle taxes, etc. There are four zonal offices, 18 regional transport offices (RTO), 42 sub regional transport offices (SRTO) and 12 motor vehicle check posts.

Based on a feasibility study report submitted by National Informatic Centre (NIC) in May 2000, Government decided in December 2001 to computerise various functions in the department to ensure efficient, satisfactory, speedy and public friendly services to the general public.

The Department installed eight servers and 87 PCs at a cost of Rs 2.81 crore till January 2004 for registration of vehicles and driving licences related work at head office, RTO Thiruvananthapuram, Ernakulam and Kozhikode.

The software for computerisation of Motor Vehicles Department SMART-MOVE developed by NIC in SQL server with Visual Basic as front end was installed for on line operation in RTO, Thiruvananthapuram during October 2002.

### ***3.2.2 Objective, scope and methodology of Audit***

IT Audit was conducted during the period between February and June 2004 to assess the reliability of the information generated and the extent of security provided by the system.

The data stored in SQL Server in RTO, Thiruvananthapuram was made available to audit in MS Access format and the same was analysed using Computer Assisted Audit Technique (IDEA 2001). The data relating to fees and stolen vehicles were also cross checked with the data at FRIENDS\* centre and Police Commissioner's office, Thiruvananthapuram respectively, using file comparison method to detect data mismatch.

### ***System Development and Implementation***

#### ***3.2.3 Delay in implementation of project***

##### **\* Delay in Computerisation of offices**

Computerisation in the Motor Vehicle Department was taken up in three modes. Firstly, the Department acting on the basis of the feasibility report prepared by NIC, decided to computerise activities like registration of vehicles, issue of driving licences, permits, certificates of fitness and wings for accounts, statutory action, establishment and planning and statistics at its head office, zonal office, RTO and RTO (NS\*) and four SRTOs\* and Amaravila check post in Thiruvananthapuram district in phase 1. The other offices were to be covered in phase 2. Out of seven offices scheduled in phase 1, only RTO, Thiruvananthapuram was computerised.

In the second mode, under a project sanctioned by Government of India, Ministry of Information Technology (MIT) in March 2003, offices in Ernakulam district were also taken up for computerisation. This is presently operational.

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\* A common facility centre for collection of tax/fees to be remitted to Government/authorities

\* Nationalised Sector

\* Parassala, Neyyattinkara, Attingal and Nedumangad

\* **Delay in development of software**

Till April 2005 NIC had developed software for computerisation of RTO (except modules for establishment, statistical and accounts wings) and installed it at RTO, Thiruvananthapuram. Development of software for use of head office and check post was still due.

\* **Delay in selecting service provider**

On the basis of administrative sanction accorded by Government in February 2003 to implement the project *Fully Automated Services of Transport Department (FAST)* on build operate maintain and transfer (BOMT) mode, computerisation of the remaining offices was also to be taken up and completed within one year. In terms of the administrative sanction, a consultant cum service provider (CSP) would be responsible for supply, delivery and installation of hardware, network equipment etc. Government in August 2003 authorised M/s Wipro Infotech to serve as consulting agency for the project FAST. They were to also prepare bid document for selection of CSP. Government had not selected the CSP till September 2005.

No project has been drawn up for networking of offices to interconnect the district level database for cross verification and generating state level management information system (MIS).

Due to delay in computerisation, the Department is not in a position to identify defaulters in tax payment, re-registration of vehicles and renewal of driving licences and to take prompt action to realise revenue due to Government.

Government stated in July 2005 that the delay in computerisation was solely due to paucity of funds, procedural delay and constraints in procurement.

**3.2.4 Inadequacies in the software**

\* **Absence of relevant provisions:**

A scrutiny of SMART-MOVE application installed at RTO, Thiruvananthapuram revealed that the system lacked provision for:

- accounting of compounding fees realised and other recoveries made by motor vehicle inspector (MVI)/assistant motor vehicle inspector (AMVI) during field checking. Hence the figures as per cashbook did not tally with electronic data.
- generating bankwise list of demand drafts to be sent to banks for collection every day from details of drafts entered into the computer. At present the list is prepared manually and this resulted in abnormal delays in sending demand drafts to the bank for timely collection and credit to Government.
- generating demand collection balance (DCB) statement for effective monitoring of collection of tax on vehicles for both transport and non

transport. DCB is not maintained on non transport vehicles under the manual system in force.

- capturing quarterly returns of permit holders of stage carriers and goods vehicles to ensure regular submission of returns, identify defaulters, to study road and transport sector economy and furnish data to transport regulatory authority
- generating reports on the details of tax due on registered vehicles, tax if any, due consequent to revision of tax, short levy of tax due to incorrect fixation of passenger capacity, shortfall in one time tax collection on motor car and two wheelers etc.
- an audit module for viewing data, querying/retrieving information required by audit etc. Manual maintenance of register of vehicles (B Register), subsidiary cashbook, tax endorsement register etc., has been dispensed with after computerisation. There is no facility to generate reports which can substitute these records and hence accuracy of accounting of receipts cannot be verified.

The Department stated (March 2005) that provision to generate DCB would be incorporated.

### **3.2.5 Application Controls**

Application controls include controls that help to ensure the proper authorisation, competence, accuracy and validity of transactions and other types of data input e.g. to check possible invalid input, system enforced transaction controls that prevent users from performing transactions that are not part of the normal duties.

#### **\* Irregularities due to inadequate input control**

Class of vehicles, vehicle description, name of manufacturer and unladen weight are standardised information specific to each type/class of vehicle. For capturing such information combo boxes have been provided for making appropriate selection with regard to classification of the vehicle in the software. But it was seen that after selecting appropriate classification from combo box, the entries in these fields are altered by the data entry staff based on the details contained in Form 21 submitted by the dealers. Thus there is no input control to prevent such unauthorised changes to the description of master data in combo box.

Government replied (July 2005) that due to frequent introduction of new models of vehicles, the updation in the master table is not possible and hence users have been given privilege of editing the entries of the combo boxes. The reply is not tenable as updating of data tables is a continuous process and related master data is required to be updated regularly.

\* **Incorrect data capture due to lack of input control**

An analysis of database of driving licences of RTO Thiruvananthapuram revealed that in the case of 14,256 licence holders the date of birth was shown prior to 2 January 1901 and in 2,073 cases the licence holders had age less than 16 years at the time of grant of licences. The date of birth and date of issue of licences were shown same in 1,310 cases. In 9,486 records the licence year indicating the year in which licences were issued did not tally with the year in the licence date. Thus the licences generated by the system might not be authentic unless the entire data is validated.

\* **Duplicate demand draft accepted towards tax**

Tax on transport vehicles is remitted by demand draft (DD) and its details are stored in database. Due to lack of provision for data validation to prevent entry of duplicate DD number of the same bank, duplication of DD number, date and issue bank code is possible.

An analysis of database containing records of DDs revealed 193 cases or records with duplicate DD number, bank, branch, amount etc., resulting in potential revenue loss to the extent of Rs 2.24 lakh. Further analysis of these records revealed that 145 duplicate DDs were issued by State Bank of Travancore, Fort Branch.

The Department accepted in March 2005 the mistakes and stated that not a single licence was issued to ineligible persons after computerisation and provision to prevent acceptance of duplicate DD would be incorporated. The errors in legacy data were due to inadequate validation.

**3.2.6 Defect in database**

\* **Non validation of legacy data entry**

RTO is required to maintain a register (B Register) for registration of vehicles containing information such as registration number, registration date, name of the owner, name of the manufacturer, type of vehicle, chassis number, engine number, unladen weight, registered gross weight, passenger capacity, details of tax paid such as amount and date up to which tax has been paid etc. The software provided for capture of vehicle particulars of B Register in database.

An analysis of registration data of vehicles of RTO, Thiruvananthapuram made available to audit as on 27 February 2004 revealed that in 45 records the registration date was shown later than 27 February 2004, in 37 records the registration date was left blank, and in 107 records it was shown as 1 January 1901. The registration numbers of vehicles were shown as chassis number in 963 records. Registered gross weight was shown as zero in 18,191 records and engine number field was blank in 1,145 records.

The aforesaid mistakes in the database evidently due to defective legacy data entry, were not rectified by proper data validation before commencing on line

transaction. Hence information generated out of the system may not be authentic and reliable.

RTO, Thiruvananthapuram stated in July 2004 that defects have been rectified. The correctness of the reply furnished by the Department could not be verified as most of the B Registers called for by audit were not traceable.

**\* Registration of vehicles with duplicate engine number/chassis number**

Engine number and chassis number are unique numbers allotted by the manufacturer to a vehicle and two vehicles cannot have same engine or chassis number.

Test check of data base relating to registration of vehicles maintained in RTO, Thiruvananthapuram revealed that in 3,833 vehicles the chassis numbers and in 5,064 vehicles the engine numbers were duplicate. Out of these in 2,357 cases both the engine and chassis number were duplicated indicating possible double registration of a vehicle.

Against manual B Registers on 2,361 (1,180 pairs) vehicles requisitioned from RTO, B Registers on only 233 vehicles were made available to audit for cross verification. A cross check of these B Registers with electronic database revealed that engine number and chassis number in both records differed in 51 cases. From the manual B Registers, 38 duplicate pairs in electronic database could be verified and both the engine number and chassis number tallied in five pairs confirming duplication in manual B Register also. As regards remaining 33 pairs they were not actually duplicate with reference to manual register indicating incorrect data entry. This indicates a strong possibility of double registration of the same vehicle.

**\* Non verification of data entry**

Under the computerised system of registration of vehicles, the registration details based on application for registration submitted by owner of vehicle is entered in the computer. The MVI/AMVI concerned inspects the vehicle and confirms that the chassis number and the engine number contained in sale letter of the dealer and manufacturer agree with that carved on the vehicle and certify accordingly. A true stencil of the chassis number taken direct from the chassis of the vehicles at the time of inspection is a vital data for registration.

A cross check of the data relating to vehicles registered during January 2004 with the original applications for registration revealed that in six cases the chassis number and engine numbers certified by the inspectors did not tally with the stencil taken from the number carved on the vehicles. In case of 18 non transport vehicles, though the chassis numbers were correctly entered initially, had been modified wrongly while entering the rest of the data after inspection. Further the chassis/engine number in the database were found incorrect in 12 cases and did not tally with the numbers in the sale letters, Form No.22, slip and stencils.

It is evident that the certifying authorities have not taken due care while inspecting the vehicles for identification and there were lapses on the part of the supervisory level staff in verification of data entry. As a result, some vehicle owners are in possession of RC books with wrong chassis/engine numbers.

\* **Non maintenance of input data**

The applications for registration submitted at the time of initial registration of the vehicles, which are the main source of input data, were not maintained properly. Though applications of all the 1,627 new registrations made in January 2003 were called for in audit only 207 applications could be made available and the balance could not be produced as these were not traceable. Thus the Department was also not in a position to cross check data with reference to original records for future references.

\* **Failure to update database of tax remitted in other offices**

As per the present procedure, vehicle tax in respect of a non transport vehicle can be remitted at any of the RTO or FRIENDS centres. Even though the scrolls of tax collected are sent by the FRIENDS centres to the RTO on a daily basis, the particulars of tax collected at the FRIENDS centres are not keyed into the system. As a result, the position of defaulters could not be correctly generated from the database.

\* **Incorrect accounting of fees remitted at FRIENDS centre**

The Department renders different services to vehicle owners after collecting prescribed fees. The data of fees collected at FRIENDS centre is entered on the basis of the receipts produced by the public alongwith applications instead of daily scroll received from FRIENDS centre.

A cross verification of the data relating to remittance of fee with the data for the period from 1 April 2003 to 31 December 2003 received from the FRIENDS centre, revealed that out of 35,397 remittances aggregating Rs 87.02 lakh made at the FRIENDS centre, Thiruvananthapuram only 12,853 remittances amounting to Rs 18.17 lakh were included in the database of the RTO, Thiruvananthapuram.

In 346 cases the amount remitted (Rs 0.77 lakh) at FRIENDS centre did not tally with the fees (total Rs 2.71 lakh) entered in the database. Out of this in 179 cases the amount remitted at FRIENDS centre (Rs 0.23 lakh) was less than the fees entered in the database (Rs 2.48 lakh) involving excess accounting of Rs 2.25 lakh.

1,653 receipts included in the RTO database during 2003 could not be traced in the FRIENDS scroll. Unauthorised accounting involved Rs 3.06 lakh.

The above disparities would indicate that data entry in the database has not been validated with reference to scroll at supervisory level before rendering services against such remittances. It also indicates a risk of manipulation of

data entry in relevant table to render services fraudulently without actually realising the fees prescribed therefor.

\* **Deficiency in data on the stolen vehicles**

Database of stolen vehicles reported to RTO is to be maintained to prevent any transaction of these vehicles till the vehicle is reclaimed as normal.

The database of stolen vehicles in RTO Thiruvananthapuram contained only 14 vehicles. Cross check with Police Department revealed that only five out of the 156 theft cases registered under the jurisdiction of Police Commissioner, Thiruvananthapuram City between January 2003 and April 2004 were included in the database of RTO. In 67 cases chassis numbers, which are vital to identify vehicles, did not match these data. As data on stolen vehicles was not updated with reference to Police Department data there was a risk of allowing transactions on vehicles with the same engine numbers and chassis numbers as stolen ones.

The Department stated in March 2005 that a website was proposed to be hosted to access the vehicle data by others.

\* **Imperfection in data on permits to transport vehicles**

Under the Motor Vehicles Act 1988, every transport vehicle must possess a valid permit. A scrutiny of data in the relevant table showed that only 3,533 records were entered in the table. The details of permits issued prior to computerisation were not entered in computer. In five records, permit numbers were shown as zero and in 222 cases the date of issue of permits and the date up to which the permits were valid were left blank and in three records the date from which permit was valid was shown later than the date up to which it was valid.

Though 1,784 transport vehicles were registered during the year 2003 the details of permits issued to 744 transport vehicles were not available in the database. These included 66 auto rickshaws and 82 other vehicles of registered gross weight over 3,000 kg. It is therefore evident that the Department did not correlate the registration data in database with permits data to rule out possible non realisation of permit fees due to Government.

**General Controls:**

General controls create the environment in which the application systems and application controls operate e.g., IT policies, standard and guidelines pertaining to IT security and information protection.

The following deficiencies in general controls were noticed in Audit.

**3.2.7 Lack of information security**

Audit found that the Department did not take adequate measures for security of the information system to ensure smooth functioning of the system as

elucidated below:

\* **Absence of password policy**

Though SMART MOVE restricts access to the system through user ids and password, no documented password policy, specifying the need to change the password periodically, was circulated. There was also no restriction of log on attempts to prevent such access by unauthorised users. As such the system was exposed to the risk of unauthorised access and consequent damages.

\* **Inadequate segregation of duties**

There are three levels of users of the system: entry level, verify level and issue level. These levels are used to enable or disable certain functions depending on the duties assigned to different users.

A scrutiny of database, which indicated menu name and access privileges assigned to each user revealed that entry, verification and issue level access was given to the same user in 948 records involving 66 users. Role allocation, menu access in database had no relation to the level of access assigned to the user in relevant table.

\* **Lack of change management control**

Once a system is implemented, change controls should be put in place to ensure that the changes to the system are authorised, tested, documented and to see that there is adequate audit trail. The requests for changes (RFC) should be signed by the higher level functionary of the Department and all the changes should be tested before they are put to use in the live environment. But there was no documentation of the modifications in the software, its approval and testing, though a lot of modifications had been made in the software for enhancing facilities or for other reasons.

\* **Absence of business continuity planning**

Business continuity planning is essential to ensure that the organisation can prevent disruption of business and resume processing in the event of a total or partial interruption of information availability. Regular backup of data is the backbone of such business continuity planning. But no back up policy has been evolved and circulated by the Department. Though backup is taken on CDs, there is no documented procedure about the frequency of taking backup and its storage away from the premises, as per an approved plan.

The Department has also not evolved any disaster management policy to restore the system in the event of loss of data due to natural disasters.

**3.2.8 Non availability of preprinted stationery with security features**

Pending decision on the acceptance of general format for a computer generated cash receipt applicable to all Government departments, Government approved in October 2002 the use of a new form of computer generated cash

receipt in the Motor Vehicles Department, in relaxation of relevant provisions in the KTC. The order stipulated that the cash receipt in TR 5(C) would be in triplicate, with shaded watermark in the original copy so as to prevent fraud and counterfeiting etc. But the TR 5(C) form printed in duplicate is being used even at present.

The Kerala Motor Vehicles Taxation Rules, 1975 was amended in October 2002 to issue computerised tax licence in Form CTL using preprinted and serially numbered stationery. But preprinted stationery required for printing tax licence tokens were not ready till August 2004 and CTLs were printed on ordinary paper. Recommendation of the Empowered Committee on computerisation for introduction of computer based tax licence (tax token) with necessary plastic coating/lamination to prevent tampering of entry has not yet been implemented due to delay in providing preprinted stationery for the purpose.

Government stated in July 2005 that Government press could not take up the printing work due to lack of facility for printing with security features and the work had been entrusted to private parties. During subsequent visit, audit found that even though tax licences have been got printed, they were not being utilised due to incompatibility problems with the printer.

### **3.2.9 Conclusion**

The major objective of computerisation of the Motor Vehicles Department was to ensure efficient and satisfactory services to public avoiding undue delay.

Though the computerised operations in the RTO Thiruvananthapuram commenced during October 2002, there was delay of over two weeks in issue of the RC books on newly registered vehicles and delay of over one week for other services like change of address in the RC book, issue of driving licence and its duplicate, renewal of driving licence etc.

Apart from introduction of some transparency in the issue of learner's licence and driver's licence, the delay in rendering various services still persists and the customers have not benefited due to computerisation in the RTO.

Under the present system, the data in the system is not verifiable and accuracy is not ensured and hence the certificates generated out of the system could not be treated as reliable with absolute authenticity. The system in the present form is susceptible to fraudulent transaction and continuance of the system involved the risk of revenue loss.

### **3.2.10 Recommendations**

The Department may arrange

- \* for verification of data entry relating to registration of vehicles, issue of licence and permits to ensure data integrity,
- \* to modify the software to include essential provisions and input control to prevent duplicate data entry,
- \* to develop the remaining modules for establishment and statistical wings,
- \* to replicate the software at other offices only after testing and acceptance of modified version,
- \* to network offices to interconnect the database with adequate firewall protection,
- \* for online updating of remittance of fees/tax at FRIENDS centre,
- \* to provide link to Police Department data on stolen vehicles to prevent transactions on stolen vehicles,
- \* to formulate suitable password policy, backup policy and business continuity planning and circulate it among staff to create security awareness

Department stated in April 2005, that the bugs in the software can only be rectified by trial and error after prolonged usage. Department also agreed to carry out the recommendations in consultation with NIC.