

### **3.2 Information Technology Review of Computerisation of activities relating to the Housing Department of the Delhi Development Authority**

*Delhi Development Authority (DDA) had incurred an expenditure of Rs. 2.44 crore as of October 2002 on computerisation of its Housing Department. In the absence of a formal IT strategy and supporting policies and procedures, the Authority did not follow the well-established system development life cycle. Consequently, the applications running in the Housing department of the Authority lacked essential internal controls. The database relating to allotment of flats and realisation of dues from allottees was incomplete, inaccurate and unreliable. The desired objective of accurate and efficient Management Information System remained largely unattained.*

#### **Highlights**

'AWAAS' application was not fully operational despite expenditure of Rs. 1.95 crore on its development including the cost of hardware, system software and networking.

The computerised database of DDA relating to allotment of flats and realisation of dues from allottees was incomplete, inaccurate and unreliable.

Raising of demands on the basis of unreliable database caused unnecessary harassment to the allottees.

No input controls were provided to ensure a check over the allotment of flats to ineligible minors and double allotment of flats to the same individual in contravention of the guidelines.

Lack of monitoring of cancelled flats led to delay of up to 6 years in their re-allotment as per the computerised database.

The database was unreliable and depicted an inaccurate picture of the dues recoverable by DDA. This was due mainly to non-updation of the cancelled flats in the allottees' database leading to duplication of demands. According to the computerised database, not even a single instalment was paid by the allottees up to March 2000 in 19826 cases of allotments against a demand of Rs. 310.47 crore. In 46893 other cases, where the flats were allotted on cash down basis, no payment was made by the allottees against a demand of Rs. 697.94 crore.

Injudicious termination of a contract resulted in avoidable delay of more than two years in implementation of an online Housing Management Information System besides extra avoidable expenditure of Rs. 19.88 lakh.

Failure to take over operation of Housing Management Information System named 'AWAAS' completed by CMC Ltd. in October 1999 and accepted by DDA in November 1999 resulted in expenditure of Rs. 32.88 lakh till October 2002 on its operation by outsourcing against the cost of Rs. 43.25 lakh for application software development.

### **3.2.1 Introduction**

The Delhi Development Authority (DDA) was constituted by the Government of India on 30 December 1957. Its major activities include (a) construction of residential buildings, (b) development of commercial centres, (c) development of land for residential, institutional, industrial, recreational and commercial purposes, (d) special projects including sports complexes and (e) development and maintenance of green areas viz. Master Plan greens, district parks, neighbourhood parks, recreational centres, sports fields and children's parks.

Housing functions performed by DDA accounted for 25.33 *per cent* (Rs. 249 crore) and 29.03 *per cent* (Rs. 238 crore) of its total receipts and payments respectively during 2000-01 (Accounts for 2001-02 yet to be finalised). Till October 2002, DDA has allotted more than 3.15 lakh houses of different categories in Delhi.

Computerisation process in various departments of DDA was started in 1981 to keep pace with latest technology and facilitate provision of better services. Some of the functions of DDA relating to land, housing, legal cases, etc. have been computerised. Three major IT applications in the Housing department are the New Pattern Registration Scheme (NPRS), the Housing Receipts Accounting System (HRAS) and the Housing Management Information System (HMIS) named AWAAS.

### **3.2.2 Organisation**

DDA is administratively headed by the Vice Chairman and has sixteen departments including the Housing department. The Housing department looks after the allotment of flats and post allotment activities. Housing Accounts wing is responsible for accounting of receipts, recovery of outstanding dues and issue of no dues certificates. The Systems department is responsible for procurement and installation of hardware and software, development of applications and their implementation, generation of demand letters and other reports.

### **3.2.3 Audit Scope and Methodology**

The scope of Information Technology audit included :-

- \* Examination of controls in selected operational applications viz. NPRS, HRAS and AWAAS;
- \* Evaluating the effectiveness of the applications in management of monitoring of flats allotted; and
- \* Realisation of dues from the allottees.

The entire housing data of allotments made during March 1982 to October 2002, maintained by the two IT applications, NPRS and AWAAS, was analysed in audit from June 2002 to November 2002 using Computer Assisted Auditing Tool namely IDEA (Accounts for 2001-02 yet to be finalised) 2001 for assessing reliability and data consistency. Likewise, the accounting data for the period September 1995 to October 2002 of HRAS application was also analysed. Besides examining the above applications and data, the existence and adequacy of general IT controls in the organisation were also assessed in audit.

## **Salient Features of IT Applications**

The salient features of the IT applications which were operational in the Housing department as of October 2002 were as under:-

### **3.2.4 New Pattern Registration Scheme (NPRS)**

A housing scheme, namely 'New Pattern Registration Scheme, 1979,' was introduced by DDA for registration and allotment of houses of MIG, LIG and Janta categories. The scheme was on all India basis and 1,71,272 persons were registered under this scheme. The application used for allotment of houses under this housing scheme was named 'NPRS application'. Subsequently this application was also used for allotment of houses under the 'Ambedkar Awaas Yojna, 1989,' 'the Janta Housing Registration Scheme, 1996' and self financing registration schemes. The application covered only the following areas:

- i. Particulars of registrants under various schemes,
- ii. Particulars of flats allotted to registrants, and
- iii. Details of demands raised on allottees.

The NPRS application was originally developed by the Computer Maintenance Corporation Ltd. (CMC Ltd.) in COBOL in 1982 and it was in use upto March 2000. NPRS application was replaced by a new IT application - Housing Management Information System named 'AWAAS' in April 2000. The NPRS application maintained data in respect of allotments made to the various applicants under the abovesaid schemes till March 2000. Thereafter the data was handled by the new application AWAAS. The data pertaining to the period prior to April 2000 continued in NPRS application and was not transferred into the new application.

This application was also used to generate Statement of Accounts and Demand and Collection details of allottees by extracting data from HRAS application from September 1995.

### **3.2.5 Housing Management Information System (AWAAS) application**

AWAAS application was developed by CMC Ltd. using Oracle 8.0 RDBMS, Developer 2000 front end tool on Windows-NT 4.0 operating system. The application was intended to serve as an on-line information system for the Housing department for interactive use of the Management and senior officers, answering public queries, updation of records directly at the counter and generation of periodic MIS reports besides accounting of receipts and post allotment activities like possession, mutation, execution of conveyance deed, etc. The application was made operational in April 2000 and it maintained data of all allotments made after April 2000.

Although the new application AWAAS introduced in April 2000 was intended to replace the other two older packages namely NPRS and HRAS, it was not fully functional till October 2002. The activities like accounting of receipts from allottees, generation of statements of accounts and demand and collection card of pre-and-post-2000 allottees were yet to be taken up. The new application AWAAS was being used mainly for allotment of flats.

### **3.2.6 Housing Receipts Accounting System (HRAS) application**

This IT application was developed in-house with the purpose of improving accounting of receipts and verification of challans and was made operational in September 1995. The application functioned on UNIX platform using ORACLE RDBMS, Forms 2.5 and Reports 2.0. It maintained data pertaining to receipts of post-September 1995 and abstracts of receipts data for the period 1981-1995. The data maintained by HRAS was also not transferred into the new application AWAAS.

## **System Implementation**

### **3.2.7 Lack of IT Strategy and policies**

#### **No documented IT Strategy and policy.**

Audit noted that although DDA had incurred more than Rs. 2.44 crore during the last 20 years, it is yet to adopt a documented IT strategy for setting up both the long-term and short-term directions for IT systems within the organisation. No policies and procedures were in place for development/implementation/ testing/monitoring of systems. It was stated by DDA (June 2002 and April 2003) that no formal IT strategy had yet been planned but steps were being taken to work out an IT road map for the future. It was added that there were no formal IT policies for security, human resources and computing. No internal audit of IT systems had also been conducted so far.

### **3.2.8 Feasibility Study of the Projects not Taken Up**

The DDA did not adopt the standard methodologies for developing the systems. No feasibility study was conducted before implementing the NPRS and HRAS applications. The feasibility study for the new application AWAAS though conducted did not envisage the integration of the old data of NPRS and HRAS applications into it with the result that the same could not be integrated as of December 2002 and the AWAAS continued to be a system only to cater to the registrants after March 2000. The System Requirement Specifications (SRS) that ultimately guide system design work were also not prepared. This resulted in the data generated by such systems developed at high costs being unreliable. This is evident from the DDA's response (December 2002) to an audit query wherein it stated that the data reflected in the statements of accounts generated by HRAS application was not used as the same was not reliable.

### **3.2.9 inadequate Project Monitoring for Application Software Development**

The development of an on-line the Housing Management Information System to take care of all the activities of the Housing department was assigned to M/s Birla Horizon International Ltd. (BHI) at a cost of Rs 22.80 lakh in February 1997 for completion within seven months. The contract was terminated in February 1999 on grounds of delay in execution of the project which was attributed partly to delay in finalisation of User Requirements on account of non-availability of officers due to their other pre-occupations or leave.

### **Injudicious termination of contract resulted in avoidable expenditure of Rs. 19.88 lakh.**

An earnest money of Rs 0.57 lakh received from the firm was forfeited. The work was thereafter awarded to CMC Ltd. without inviting open tenders at a cost of Rs. 43.25 lakh in April 1999 and it was completed in November 1999. Thus, injudicious termination of contract with M/s BHI resulted in avoidable expenditure of Rs. 19.88 lakh besides delay of more than two years in completion and implementation of application software.

Audit noted that the development of AWAAS application software entrusted to BHI in 1997 included a module on 'Project Monitoring' to facilitate both monitoring of the expenditure incurred on construction of the flats as well its physical progress from the date a particular scheme was listed in the DDA budget. The module was to maintain an inventory of flats constructed by DDA and flats allotted to enable the DDA to plan the construction of flats in future and estimate the availability of flats in pipeline with the target dates of completion. This module was however not included in the scope of work of application development awarded to CMC Ltd. in 1999 with the result that effective watch could not be exercised over the flats constructed, flats allotted and vacancy position in a particular location.

DDA stated (April 2003) that AWAAS provided for keeping the inventory of flats constructed. However Audit observed that there was no module to facilitate monitoring of expenditure incurred in construction as well as physical progress in construction of flats as provided in the contract with BHI.

#### **3.2.10 Unfruitful Expenditure on Maintenance of Application Software**

The AWAAS application software development was completed by CMC Ltd. in October 1999 and accepted by DDA in November 1999. The software had a warranty of three months from the date of acceptance. During this period, modifications, if any, required in the software were to be attended by CMC Ltd. Further, the staff trained by CMC Ltd. was to acquaint themselves with the operation and upkeep of the new infrastructure. DDA however failed to take over the application software for operation by an in-house team during the warranty period which expired in February 2000.

### **Failure to take over the operation of Application software resulted in avoidable expenditure of Rs. 32.88 lakh.**

In March 2000, CMC Ltd. submitted a proposal for handing over the system to an in-house team of DDA to look after management of computerization operation and plan data entry for new schemes and phased conversion of old schemes. Alternatively, CMC Ltd. offered facility support of two system professionals and a data entry operator for Rs. 19.20 lakh per annum for this software as well as application software for legal cases. The application software continues to be maintained by CMC Ltd. as of October 2002. The total payment on this account during March 2000 to October 2002 was Rs. 32.88 lakh.

Thus, DDA failed to train its personnel in adequate numbers to progressively become self-reliant and be in a position to take over the system though a team comprising of one Deputy Director, one Assistant Director and two console operators/programmers had

been associated with the team from CMC Ltd.. Delay in taking over the system resulted in an expenditure of Rs. 32.88 lakh as of October 2002 against the total cost of Rs. 43.25 lakh for application software development.

Further, the private staff appointed by CMC Ltd. for administering the AWAAS application had access to the servers, database, application software, operating system and associated utilities which exposed the system to the risk of unauthorised access and data manipulation.

DDA stated (April 2003) that it was not practically feasible to take over the facility management of AWAAS system at this stage due to insufficient manpower and that it was being contemplated to award the contract by open tender.

There was an obvious need to train the DDA's staff to take over the facility management of AWAAS application from CMC at the earliest to avoid recurring expenditure on the facility support.

### **3.2.11 Application not fully operational**

As of October 2002, the application software AWAAS was not fully operational as the details of pre-April 2000 allottees were yet to be transferred from the existing NPRS package. The Accounting module of AWAAS has also not been made operational as data from the existing HRAS application could not be transferred into the system and the entries of post 2000 receipts from allottees continued to be made on the old HRAS application. Besides, Queries, Compactor and Counter monitoring modules were either not used or were partially functional.

**No additional benefit was achieved with the new AWAAS system despite Rs. 1.95 crore spent on its development.**

Failure of DDA to clearly define the scope of work including integration of data from the existing software packages, acceptance of the application software without testing and delay in implementation deprived the Housing department of the facility of a comprehensive Housing Management Information System despite investment of Rs. 1.95 crore on acquisition and maintenance of hardware and software.

DDA stated (April 2003) that the NPRS and HRAS data could not be integrated as these two data sets required considerable updating and cleaning of data for which exercise was already on.

It was evident that though the AWAAS application had been taken over and made operational in April 2000, DDA failed to update and integrate the data as of April 2003 even after a lapse of three years.

### **3.2.12 Improper Hardware and Software Inventory Controls**

**Stock registers were poorly maintained and physical verification of inventory was never performed.**

Audit observed that the DDA did not maintain an accurate record of its I.T related inventories. The stock registers were poorly maintained as the entries in the registers were never attested by any authorised officer or store-in-charge nor verified by a senior officer. The entries in the registers did not indicate the cost, source of purchase, invoice details along with dates. There was no evidence that annual physical inventory verification had ever been conducted.

DDA stated (April 2003) that efforts were being made to recast the stock registers and that the system of periodic annual inspection was also being put in place.

### **3.2.13 Absence of System Documentation Policies and Lack of Programme Amendment Controls**

#### **No documentation was maintained for AWAAS application software.**

No documentation policies were in place and consequently no documents were available regarding the systems development, testing, implementation and review of all the three packages viz NPRS, HRAS and AWAAS. Testing documents were not available for AWAAS application software developed by CMC Ltd. at a cost of Rs 43.25 lakh which was accepted by the Dy. Director (Systems) in November 1999. Further, frequent changes were made in various modules even after acceptance of the said application software. A number of modules were still not functional.

#### **User manuals for the NPRS and HRAS applications were not available.**

Although user manuals for the AWAAS application developed by CMC Ltd. using Oracle and Developer 2000 were available, subsequent changes made to the software since July 2002 were not reflected in the user manuals. Further, user manuals/documentation for the NPRS, HRAS applications, which were operational in DDA were not available. No documentation was available in respect of user feedback and changes made to the original application

Inadequate documentation policies increase the risk of unauthorised working practices being adopted and may render the system difficult to correct, improve and maintain. Non-updation of user manuals could leave the actual users ignorant of changes made in the package and may lead to incorrect data entry and processing.

### **3.2.14 Lack of Adequate Disaster Recovery and Business Continuity Planning**

#### **No formal disaster recovery and business continuity plan existed to avoid data loss in case of any eventuality.**

DDA did not have a formal disaster recovery and business continuity plan to provide reasonable assurance that the data processing operations could be regained effectively and in a timely manner. The key configuration items (hardware, software, personnel and data assets) which were indispensable for continuity of the IT activities had not been identified through a proper risk analysis and counter measures were not outlined.

Director (systems) stated (April 2003) that though there was no formal disaster plan, regular back-ups were being taken with the intention of minimising data loss in case of any eventuality and that the network of different buildings was under consideration for maintaining support back up servers.

In the absence of a business continuity and disaster recovery plan, a significant disaster impacting the DDA servers and other computing systems could paralyse automated operations of DDA and result in loss of vital data. Further, the absence of a comprehensive and tested disaster recovery plan in DDA could result in unnecessary expenditure, significant processing delays and loss of goodwill.

### **3.2.15 Audit review of data in NPRS and AWAAS IT Applications**

DDA has been announcing schemes for various categories of flats viz. MIG (Middle Income Group), LIG (Lower Income Group), Janta, etc. from time to time. The first registration scheme was opened in 1969 and 30 schemes have been announced till October 2002 as shown in Annex-I. As soon as a scheme for allotment of flats to the general public is announced, application forms bearing specific numbers are sold through designated banks. This application number becomes a key field for identifying a particular application. In case of schemes where the allotment of flats cannot be made to all the registered applicants within a reasonable period, the applicants are allotted a priority number by draw of lots. The allotment in such schemes is made on the basis of the priority number as soon as completed flats are available. In case of schemes not meant for the general public like Vijay Veer Awaas Yojna, Housing Scheme for Rehabilitation of Punjab Migrants, Housing Scheme for Kashmiri Migrants, Housing Scheme for Motia Khan Jhuggi Dwellers, etc; the allotment of flats is made to all the registered applicants by draw of lots. The allottees are also given option for payment of dues on cash down or hire purchase basis. The possession of flats is given to allottees opting for cash down basis on full payment of dues while to the allottees of hire purchase on payment of initial deposit specified in the demand letter. In case of non-payment of dues or initial deposit within a specified period, the allotment is liable to be cancelled. The entire procedure of registration and allotment is computerised with application number as the key field.

Audit findings on the data of allotments made during March 1982 to October 2002 kept in NPRS database and AWAAS database are discussed in the succeeding paragraphs.

### **3.2.16 Mandatory Fields lying Blank**

#### **Essential fields in the registrants'/ allottees' database were lying blank.**

As per guidelines issued by DDA at the time of floating a scheme, incomplete applications shall be rejected. However, analysis of registrants'/allotees' database containing 1,66,020 records in NPRS application and 61,661 records in AWAAS application revealed that various essential fields like applicant's name, address, registration number, priority number, date of birth, registration amount, etc. were not filled with data in a number of cases as detailed below:



Data Base	Number of columns blank or containing invalid data							
	Application number	Applicant's Name	Father's/ Husband's name	Address	Date of birth	Registration amount	Priority number	Registration number
NPRS	21,647	14	41,010	10,729	15,551 **	1,103	37,745	844
AWAAS	1	4	1,883	1,430	10,107 **	1,425	--	--
<b>Total</b>	<b>21,648</b>	<b>18</b>	<b>42,893</b>	<b>12,159</b>	<b>25,658</b>	<b>2,528</b>	<b>37,745</b>	<b>844</b>

\*\* Excludes 169295 records against which the column was also blank as the date of birth column was not provided in the Application Form while inviting applications

Due to such incomplete records, database not only showed an incorrect picture but also deprived the management of querying the database for relevant information needed for decision-making.

DDA stated (April 2003) that all information was not readily available and the errors in feeding the applicant's name were being rectified.

### 3.2.17 Incomplete Database of Self Financing Scheme (SFS) allottees

Under the SFS schemes, flats are initially allocated to the applicants specifying the area, block, pocket, etc. The allottee is required to make the payments against the demand for allocated flat based on the stage of construction of the flats. On completion of the flats, specific flat number is allotted by a draw and the allottee is required to make the balance payment before the possession is handed over.

**Against 53220 flats allotted under SFS schemes, details of allotment were available in 8311 cases only.**

An analysis of database revealed that flat details regarding allotment were available against only 8,311 records whereas 53,220 flats were actually allotted during 1980-81 to 2001-02 under SFS schemes as intimated by the DDA.

DDA stated (April 2003) that SFS allotments continued to take place manually with the result that information was not available in the database.

Thus, the allotments under SFS being made manually and the non-updation of the records of allottees in the database defeated the very purpose of computerisation.

### 3.2.18 Lack of Control over Eligibility Criteria

**No check over allotment of flats to ineligible minors was prescribed**

According to the guidelines for allotment of flats by DDA, an applicant should have completed 18 years of age on a date specified in the scheme. However, according to the computerised data, 18 registrants under various schemes were minors (i.e. below 18 years of age) on the date of application. Manual verification of 4 records by Audit revealed that in three cases the applicants were actually minors and were allotted flats while in one case the date of birth was wrongly entered as shown in **Annex-II**. The records relating to the other 14 cases were not made available to audit.

Failure to provide a check over such cases thus resulted in allotment of flats to ineligible applicants.

DDA stated (April 2003) that the deficiencies and lack of control in the software had resulted in inconsistencies in the data which would be resolved once the online system was fully implemented.

The reply was not tenable as these controls were required to be provided at the design level and surely before putting the system to use.

### **3.2.19 Lack of Control over Double Allotments/Applications**

According to the guidelines for allotment, an applicant must not own any residential house or plot in full or in part on leasehold or freehold basis in New Delhi/Delhi/ Delhi Cantonment either in his/her own name or in the name of his/ her wife/husband/minor dependent children. Further, a person who has already been allotted a house/flat constructed by the DDA or any land-owning department, even if it is less than 80 sq yards, shall not be eligible to apply for another flat.

An analysis of data of AWAAS application for the period April 2000 onwards revealed that the applicant's name, father's/spouse's name and the date of birth and address were the same in 69 instances in the database. A further analysis in audit of these shortlisted cases revealed that -

- \* In 11 cases though a flat had already been allotted, another application was pending in the name of the same applicant;
- \* In 43 cases, two applications of the same applicant were pending for allotment;
- \* In 9 cases, two flats were allotted to the same applicant; and
- \* In 6 cases, two flats were allotted against the same application;

Similarly in NPRS application, 23,075 records out of a total of 1,66,020 records in the database were found having duplicate data in key fields like name, application number, priority number, etc. A further analysis of these records revealed that:

- \* In 7,496 records, applicants with the same application number, registration number and priority number were allotted two or more flats. A test check in audit of records of applicants with the same application number, registration number and priority number having received two allotments revealed that these inconsistencies arose because the database was not updated rendering the database unreliable.
- \* In 10,785 records, name of the applicant was repeated but the father's/spouse's name and/or date of birth and address being not indicated in a majority of cases,

no meaningful use of the database could be made to analyse situations of double allotments to the same individual in the same or different schemes.

An analysis of the database of the SFS registrants in NPRS application containing 61,657 records also revealed that 2,825 records were having duplicate name, fathers'/spouses' name and date of birth of the applicants. Audit findings as a result of test check of records of such allottees are given in **Annex-III**.

**Database was never reviewed by the Management to detect duplicate records.**

The applications had little monitoring capability due to the fact that there was no control over the data. At no stage had the database been reviewed either by the Management or Systems department to avoid duplication of records and to ensure necessary validation checks. In the absence of desired validation checks, no check over the allotment of a flat to a minor and double allotment of flats to the same individual in contravention of the standing orders could be exercised.

DDA stated (April 2003) that the cases of double allotments were being looked into and the NPRS data was being updated for cancellation so that only one live allotment was there.

***Ineffective and disjointed computerisation of allottees database***

**Databases of pre and post 2000 registrants/ allottees were not integrated.**

Since the data in NPRS database was not integrated with the data in AWAAS database, it could not also be analysed in Audit as to whether the registrants of the various schemes in NPRS database viz. NPRS, AAY (Ambedkar Awaas Yojna) and JHRS (Janta Housing Registration Scheme) schemes had been given allotments either in the same or different schemes for which the database existed in AWAAS.

Further, since the records of General Housing Registration Schemes (60000 allottees of 7 General Housing Registration Schemes announced during 1969 to 1985) and the records of allottees of land for housing though computerised (44095 allottees of land for housing prior to the year 1999 were not computerised) were not linked to the housing database, no check could be exercised to see that (i) the allottees of General Housing Scheme and (ii) the allottees of residential plots/ land were not also allotted a flat under various schemes for which the data base was available in NPRS and AWAAS applications.

DDA stated (April 2003) that the issue of feeding the data of allottees of General Housing Schemes and land for housing prior to 1999 was under consideration.

Thus, the DDA failed to take a decision to feed the data of these allottees during the last 20 years after computerisation process was started in 1981.

### 3.2.20 Lack of Monitoring of Flats becoming Available after Cancellation of Initial Allotment

#### **Lack of monitoring of cancellation of allotments in the database led to abnormal delay of up to 6 years in their re-allotment.**

An allotment of a flat can be cancelled on the request of an applicant or due to non-payment of dues or due to use for a purpose other than residential. Under the NPRS and AWAAS database, 35,934 allotments were shown as having been cancelled. The actual date of cancellation was however not available in the database. A cross-linking of 3,454 cases of cancellation of allotments of flats with their further re-allotment revealed that there were delays ranging from one to six years in their re-allotment as per the database in the computers as indicated below:

Delay in allotment	No of cases
Between 1 to 2 years	3303
Between 2 to 3 years	123
Between 3 to 5 years	17
Between 5 to 6 years	11

DDA stated (April 2003) that the updating could not be carried out due to manual working and that necessary data updation was under way.

### 3.2.21 Unreliable Database

The data of allotment of flats and other post-allotment activities shown in the DDA's Annual Reports and database in NPRS/AWAAS applications revealed differences as detailed below:

Name of Scheme/Activity	Period of allotment/Activity	Category	Number of flats allotted/number of cases	
			As per database	As per annual report
New Pattern Registration Scheme	Up to March 2000	MIG	37,728	38,769
		LIG	53,695	54,891
		JANTA	57,222	58,288
Ambedkar Awas Yojna 1989	Up to March 2000	MIG	3,302	3,400
		LIG	4,704	4,622
		JANTA	2,983	2,988
Janta Housing Registration	Up to March	JANTA	6,386	6,344

Scheme 1996	2000			
New Pattern Registration Scheme	2000-01	MIG	772	1,197
		LIG	147	204
Ambedkar Awas Yojna 1989	2000-01	MIG	283	398
		LIG	48	68
Janta Housing Registration Scheme 1996	2000-01	JANTA	782	1032
New Pattern Registration Scheme	2001-02	MIG	949	2,677
		LIG	240	454
Ambedkar Awas Yojna 1989	2001-02	MIG	317	1,654
		LIG	70	1,184
Janta Housing Registration Scheme 1996	2001-02	JANTA	1,043	1,712
Mutation Cases	2000-01	Not Applicable	3	537
Possession	2000-01	Not Applicable	0	5,218
Conveyance Deed	2000-01	Not Applicable	0	18,499
Mutation	2001-02	Not Applicable	16	837
Possession	2001-02	Not Applicable	0	6,873
Conveyance Deed	2001-02	Not Applicable	0	5,091

**Performance of Application software was never reviewed.**

It was evident that although the NPRS and AWAAS applications were in operation since 1981-82 and 2000-01 respectively, their performance had never been reviewed. The differences in figures above indicate that the database was never relied upon by DDA and that the post-allotment activities viz. possession, mutation, conveyance deed, etc. were computerised to a very limited extent.

DDA stated (April 2003) that the discrepancies in the figures were being verified separately.

**3.2.22 Audit review of data in System for Accounting of Receipts (HRAS)**

Under the existing system, all housing receipts of DDA are collected through 44 different branches of two designated banks. Dues against the demands raised by DDA towards allotment of flats can be deposited by an allottee through a prescribed challan in any of the designated branches. All such receipts realised by different branches are transferred by the respective branch to their nodal branch alongwith a scroll and a copy of each challan accounted for in the scroll. The nodal branch in turn forwards these scrolls along with challan under an advice to DDA. Allottees have also the option to deposit the dues through bank drafts directly with DDA. These advices, scrolls and challans/drafts were entered in the computer in HRAS application implemented since September 1995.

The deposits made by an allottee through challans and bank drafts are identified with reference to a file number. This facilitates generation of 'Statement of Accounts' and 'Demand and Collection Cards.' Challans with incorrect or incomplete file description get transferred to a Suspense Account. These challans are however verified with reference to challan number and amount thereof as and when the allottee approaches Management giving full details of payment with copies of challan in proof of payment.

HRAS contained a query module to facilitate identification of a challan on the basis of the challan number and amount. The user who had made the data entry could make any correction in the database of advice, challan and scroll.

An analysis in audit of the database of HRAS application for the period September 1995 to October 2002 revealed discrepancies as discussed below:

### **3.2.23 Irregularities in Accounting of Deposits made by Allottees**

#### **Application software used for accounting of receipts lacked essential input controls resulting in major irregularities in the database.**

The credits for the deposits made by the allottees through challans in various nodal branches are received under an advice note. The date of deposit by an individual and date of credit by bank are entered under two different columns provided in the challan table screen. The data is used to generate the allottees' Statement of Accounts and calculation of interest on belated payments of instalments as well as for compilation of monthly accounts of the receipts of the Housing department. An analysis in audit revealed the following irregularities due to lack of input controls:-

- \* In 163 records involving Rs. 0.37 crore, date of deposit by the allottees was not recorded.
- \* In 723 records involving Rs. 0.61 crore, dates of deposit were wrongly depicted as having been entered between September 1000 to January 1969 and were, therefore, not accounted for in the allottees accounts.
- \* In 7,239 records involving Rs. 9.53 crore, the date of deposit by the allottee was later than the date of credit by bank.
- \* In 1,48,879 records involving Rs. 132.57 crore, there was delay ranging from 15 days to more than a year in affording credit by bank against the deposits made by allottees.
- \* In 5,188 records, deposits of Rs. 106.97 crore made by allottees by bank drafts were not accounted for while generating the 'Statement of Accounts' and 'Demand and Collection Card.'

- \* In 5,016 records of drafts involving Rs. 98.93 crore, date of credit by bank was not indicated.
- \* In 24 cases of bank drafts' deposition, double entries were made resulting in excess credit of Rs. 0.19 crore.
- \* 80,554 challans involving Rs. 145.12 crore were lying unadjusted in a Suspense Account due to incorrect file description.
- \* Though allottees' file details in respect of 13,643 challans involving Rs. 39.71 crore lying in Suspense Account were identified when approached by the allottees, necessary corrections in the database to transfer these challans to allottees accounts were not carried out.
- \* In 22,396 records involving Rs. 50.66 crore, double/multiple entries of challans bearing same numbers were noticed. An analysis of these records further revealed that:
  - \* In 4,934 of the abovesaid records having duplicate challan numbers, even the date of deposit and bank code were the same.
  - \* In 422 records having duplicate challan number; amount and credit date were also the same.

As regards double/multiple entries of challans, DDA stated (November 2002) that the duplication was mainly due to the reason that under an Amnesty Scheme in 1998 for providing relief in the payment of interest on the belated payments of instalments, three challans bearing same numbers with A, B and C suffixed to the number were issued to each allottee and that the Form A was for payment of outstanding instalments of flats and B and C were for first and final instalment of interest accrued on outstanding dues. It was observed in audit that the HRAS application was not appropriately modified to take care of A, B or C categorisation with the result that no check over the double entry of challans in such cases could be exercised.

Due to inadequate validation of various fields and absence of input controls, the incorrect or blank entries under the deposit date column resulted in incorrect calculation of interest on the arrears of the allottees. Also wrong entries under the credit date column deprived the department of the means to keep a watch over the delay in deposits by the banks besides loss of interest on deposits made by the allottees.

Further, the transfer of challans to suspense account which was ignored while generating the statement of accounts and generation of demand and collection card of the individuals resulted in issue of inaccurate demands against the allottees. The deposits made by the allottees were verified with reference to the copies of challans submitted by them before finalising their accounts.

In the absence of date of credit against the bank drafts, it could not be ensured from the database that the drafts were actually credited to the DDA's bank account.

While agreeing with the audit observations, DDA stated (April 2003) that the accounts of allottees were finalised manually with reference to the copies of challans submitted by them before finalising their accounts. DDA added that the designated banks were not able to render efficient services and that four new generation banks had been listed for services to streamline the system of collection from allottees and immediate credit of money to DDA's account.

### 3.2.24 Outstanding Dues against Allottees

#### **Allottees of flats on Hire Purchase Basis**

In the case of flats allotted on hire purchase basis, an individual is required to make the payment of instalment by the 10th of every month at designated bank/branch. In case of default, he is liable to pay penalty for delayed/non-payment of instalments as per the terms and conditions of allotment. In case of non-payment of instalments, allotment of the flat was also liable to be cancelled. It was noticed from the database in HRAS application that:

**As per HRAS database, in 19826 cases not even a single instalment was paid by the allottees against the demand of Rs. 310.47 crore.**

- \* Not a single instalment had been paid by the allottees in 19,826 cases. This included 9,319 cases where the allotment of flats was made prior to 1990 and 7,335 cases where the allotments was made during 1991-95. The total dues outstanding in these cases as of March 2002 were Rs. 310.47 crore excluding interest of Rs. 254.60 crore on account of non-payment/delayed payment.
- \* The table below depicts the cases of delayed/non-payment of instalments in respect of allotments made upto the year 2000 as per computerised database maintained in DDA:

*(Rupees in crore)*

Year of allotment	Percentage of instalments paid						Amount outstanding	
	Zero	Less than 10	between 11-25	between 26-50	between 51-75	between 75-100	Cost	Interest
	No of Cases							
Up to 1990	9,319	8,405	5,851	6,958	9,898	12,809	317.73	485.10
1991-95	7,335	2,230	924	909	932	778	218.47	197.03
1996-00	3,172	1,135	702	535	351	446	112.42	52.68
<b>Total</b>	<b>19,826</b>	<b>11,770</b>	<b>7,477</b>	<b>8,402</b>	<b>11,181</b>	<b>14,033</b>	<b>648.62</b>	<b>734.81</b>

While the figures may not represent the actual state of affairs, they indicate that the database is highly unreliable.

#### **Allottees of Flats on Cash Down Basis**

In the case of flats allotted under various schemes on cash basis and also flats allotted under SFS schemes, an allottee was required to make full payment against the demand before possession was handed over. A cross linking of allottees database in NPRS and AWAAS applications with database in HRAS application revealed that:



- \* In 4,676 cases, no payment against the demand of Rs. 204.74 crore was made by the allottees under various schemes other than SFS whereas in 2,289 cases, Rs. 57.10 crore were paid short against the demand of Rs. 85.02 crore.
- \* In 10,547 cases, Rs. 176 crore were paid short against the demand of Rs. 219.47 crore by the allottees under SFS schemes whereas in 42,217 cases, no payment was made against the demand of Rs. 493.20 crore.

**Lack of monitoring of the outstanding dues against allottees led to accumulation of arrears of Rs. 1579.66 crore as per HRAS database.**

Thus, lack of monitoring of outstanding dues resulted in accumulation of arrears to the extent of Rs. 1579.66 crore excluding interest as per computerised databases maintained by the DDA.

The action taken against defaulters has not been intimated as of January 2003. The Financial Advisor (Housing) failed to review the statement of accounts and demand and collection cards generated by Systems department year after year, reconcile them with reference to the copies of the challans submitted by the allottees and take appropriate steps to rectify the individual accounts and initiate action against the defaulters.

DDA stated (April 2003) that in view of the manual system of verification and finalisation of accounts in individual cases, the financial interest of the DDA was fully safeguarded and that efforts were being made to recover the old arrears by increasing the number of Recovery Officers and issue of defaulter notices to the allottees.

**Raising of demands on the basis of unreliable database caused unnecessary harassment to the allottees.**

In view of the observations made in paras 3.2.23 and 3.2.24 above, the data as maintained in HRAS software is unreliable. Thus, the demands raised by DDA on the basis of unreliable database caused unnecessary harassment to the allottees.

### **3.2.25 Incomplete Data of Cheques**

The Application had a separate module to account for the cheques issued by the DDA in refund of the deposits made by the registrants. It was noticed that:

- \* the entries of cheques were not made during July 1996 to April 1997 and from January 2000 to March 2002.
- \* the date of debit of cheque by the bank was given in only 6 cases against 30,394 cheques issued.
- \* in 59 records out of 30,394, the date of issue of cheque pertained to the period October 2005 to November 2011.

**Incomplete database of refunds deprived the DDA of the means to keep a check over irregular or fraudulent refunds.**

In the absence of complete entries of refunds made, the number of cases of refunds actually authorised could not be ensured from the computerised database. Further, no check could be exercised by the DDA over the amount of refunds against the actual deposits and the correctness of amount of refund against the cheques issued.

DDA stated (April 2003) that action was being initiated to update the entries.

### **3.2.26 Duplication of Inputs**

**Non-standardisation of inputting repetitive information led to duplication of efforts in feeding the data.**

Although a database of all registrants with essential details existed in the NPRS and AWAAS applications, it was not used to validate data entry of challans received from the banks on account of deposits made by allottees against the demands raised from time to time. The same information was entered again on receipt of fresh challans in favour of the same allottee. These fields were Category, Name, Sector, Pocket, Floor, Flat Number and Locality.

Duplication in data entry resulted in non-standardization of repetitive information which in turn increased the risk of errors besides duplication of efforts in feeding the data resulting in extra burden on the data entry operators.

DDA stated (April 2003) that since the two applications which were developed on two different environments namely COBOL and ORACLE were not linked at that stage, the feeding of additional information was felt necessary for verification purpose and that necessary provision had been entered in AWAAS to avoid duplication of data entry.

The reply is not tenable as the two applications were being linked for the purpose of generation of statement of accounts and demand and collection details and as such the duplication of inputs could have been avoided. Further, AWAAS was not yet fully operational and the entries of challans continued to be made in the HRAS application leading to duplication of data entry.

**3.2.27 Non-reconciliation of Differences in Actual Receipts through Banks**

The HRAS application provided for generation of a discrepancy report to indicate the differences in figures reported by banks against advice, scroll and challans. The following table would indicate the yearwise differences in the credits intimated by banks through advice, scroll and challans:

*(Rupees in crore)*

Year	Advice Amount	Scroll Amount	Challan Amount
1995-96	194.37	193.07	192.92
1996-97	392.00	390.26	390.05
1997-98	504.77	504.12	503.99
1998-99	406.60	405.47	405.37
1999-00	285.59	290.63	283.95
2000-01	243.63	241.84	241.45
2001-02	211.11	201.07	200.45
<b>Total</b>	<b>2,238.07</b>	<b>2,226.46</b>	<b>2,218.18</b>

Though the application provided for modification of entries of advice, scroll and challans, it did not provide for updating the above differences and nor did it facilitate working out of the total amount of such adjustments for accounting purposes. These differences were

therefore being adjusted manually. No proper records for manual adjustment of these differences were however maintained and as such the upto date position of differences could not be ascertained in audit from the database. In the absence of reconciliation of figures, the correctness of deposits made by allottees against amount advised and credited by bank could not be ensured.

### **3.2.28 Lack of Validation Checks**

The various fields were found to be lacking proper validation:

- \* The field pertaining to account code for distinguishing the payments on various accounts like registration money, cost, instalments, and interest on cost, etc. made by the allottees which was supposed to take only codes specified in the master data table was accepting other values also. In 145 cases, values other than those specified in the master table were accepted.
- \* In 104 cases, the user code was appearing as zero though specific codes have been allotted to the data entry operators which did not include zero as user code.

Due to lack of validation checks, the acceptance of the wrong account codes resulted in misclassification of receipts while the incorrect user code deprived the DDA of the means to identify the users in case of manipulation of data.

DDA stated (April 2003) that checks were being provided to stop erroneous entries.

### **3.2.29 Incorrect picture of outstanding dues depicted by HRAS database**

The outstanding dues against various allottees on NPRS and AWAAS database other than allottees under the SFS schemes were worked out annually by generating reports of dues realised as per database in HRAS application vis-à-vis the total demand raised as per demand letter against the allottees. The outstanding dues/sundry debtors in respect of allottees under SFS schemes continued to be worked out manually. No record was however maintained to keep a control over such due payments.

### **Non updation of cancelled flats in allottees database led to duplication of demands inflating the total dues recoverable from allottees**

The database of allottees in NPRS application was not reliable in view of the fact that in 7,496 cases, double allotments were shown against the same application as discussed in para 6.4. In view of the unreliable data-base, the authenticity of dues outstanding/sundry debtors could not be vouchsafed in audit.

### **3.2.30 Conclusion**

DDA had incurred an expenditure of Rs. 2.44 crore as of October 2002 on computerisation of its Housing department. In the absence of a formal IT strategy and supporting policies and procedures, the DDA did not follow the well-established system development life cycle. Consequently, the applications lacked essential inbuilt controls.

The data-base was unreliable and the desired objective of accurate and efficient Management Information System remained largely unattained.

Based on the audit findings, it is recommended that the DDA should consider the following steps to improve the computerisation of its Housing Department and achieve its overall objectives:

- \* Formulate comprehensive and co-ordinated IT policies for security, human resources and computing;
- \* Train and equip its staff to take over the facility management of AWAAS application from CMC at the earliest to avoid recurring expenditure on the facility support;
- \* Formulate a comprehensive disaster recovery and business continuity plan to avoid data loss in case of any eventuality;
- \* Update the User Manuals and provide adequate training to its staff so as to equip them to handle all the applications efficiently, minimising incorrect data entry and processing;
- \* Update the database and devise a system for its periodic analysis so as to ensure its correctness and reliability while appropriately modifying the software wherever necessary to ensure a proper control over the data- base, obviating any inconsistency; and
- \* Prescribe norms for periodic review of the database relating to outstanding dues so as to enable initiation of timely action against defaulters and to fix responsibility on staff in cases of their failure to initiate appropriate action for recovery of outstanding dues.

The matter was referred to the Ministry in January 2003, its reply was awaited as of February 2004.

**Annex- I**  
**(Referred to in paragraph No. 3.2.15)**

Sl. No	Name of the Scheme	Present Status
1.	General Housing Registration Scheme, 1969	Closed
2.	General Housing Registration Scheme, 1971	Closed
3.	General Housing Registration Scheme, 1972	Closed
4.	General Housing Registration (SC/ST) Scheme, 1973	Closed
5.	General Housing Registration Scheme, 1976	Closed
6.	Self Financing Housing Registration Scheme - I, 1977	Closed
7.	Self Financing Housing Registration Scheme - II, 1978	Closed
8.	Self Financing Housing Registration Scheme - III, 1979	Closed
9.	New Pattern Registration Scheme, 1979	Live

10.	Self Financing Housing Registration Scheme - IV, 1981	Closed
11.	Spl. Retired/Retiring Persons Registration (SFS) Scheme, 1981	Closed
12.	General Housing Registration Scheme for RPS, 1982	Closed
13.	Spl. Retired/Retiring Persons Registration (SFS) Scheme, 1983	Closed
14.	General Housing Registration Scheme for RPS, 1985	Closed
15.	Self Financing Housing Registration Scheme - V, 1985	Closed
16.	Self Financing Housing Registration Scheme - VI, 1986	Closed
17.	Ambedkar Awas Yojna Special Housing Registration Scheme for SC/ST - 1989	Live
18.	Self Financing Housing Registration Scheme - VII, 1994	Closed
19.	Expendable Housing Scheme, 1995	Closed
20.	Self Financing Housing Registration Scheme - VIII, 1995	Closed
21.	Janta Housing Registration Scheme, 1996	Live
22.	Self Financing Housing Registration Scheme - IX, 1996	Closed
23.	Expendable Housing Scheme, 1996	Closed
24.	Vijay Veer Awas Yojna, 1999	Live
25.	Housing Scheme for Rehabilitation of Punjab Migrants, 2000	Live
26.	Housing Scheme for Registration of Kashmiri Migrants, 2001	Closed
27.	Housing Scheme for Rehabilitation of Motia Khan Jhuggi Dwellers, 2001	Live
28.	Special Housing Registration scheme, for Retiring Govt Servants, 2001.	Closed
29.	Narela Housing Registration Scheme, 2002	Live
30.	Vasant Kunj, HIG Scheme, 2002	Closed

**Annex- II**  
**(Referred to in paragraph 3.2.18)**

**List of ineligible minors test checked in Audit**

Application no.	Scheme	Name	Date of birth as per database	Date for working out age limit	Date of allotment	Remarks
82586	JHRS*	Gagan	30-9-1979	31-01-1996	26-12-2001 to 31-12-	Minor

					2001	
09745	JHRS	Ravi Kumar Paswan	24-04- 1979	31-01-1996	10-4-2002 to 25-4- 2002	Minor
474	HSRMJD**	Smt.Anguri Devi	10-12- 2001	30-11-1999	26-12- 2001 to 31-12- 2001	Date of Birth as per application was 10-12- 1951 whereas it was wrongly entered in database as 10-12-2001.
25838	JHRS	Mahesh Pahuja	16-08- 1978	31-01-1996	10-04- 2002 to 25-4-2002	Minor

\* Joint Housing Registration Scheme

\*\* Housing Scheme for Rehabilitation of Motia Khan Jhuggi Dwellers

**Annex- III**  
**(Referred to in paragraph No. 3.2.19)**

**List of Cases of Double Allotment /Applications Test Checked in Audit**

Sl. No.	Scheme	Category	Application no.	Date of Application	Name	Status	Photo details	Registration details in other schemes	Remarks.
1.	HRSRGS*	LIG	1851	19-07-2001	Smt.Daljeet Kaur Walia	Possession	Colour	Column not provided	Name, Husband's name, DOB, Name of co-applicant same but address is different.
	JHRS**	Janta	9485	23-02-1996	Do	Do	Do	No	
2.	HRSRGS	LIG	5561	28-08-2001	Ravinder Singh	Possession	Colour	No column provided in the form	Photograph , DOB, address, signature, father's name matching
	--do--	MIG	5235	22-08-2001	--do--	Pending	--do--		
3.	HRSRGS	LIG	4125	11-08-2001	R.V.Savani	Possession	Colour	--do--	Photograph, DOB, address, signature, father's name matching. Name of Co-applicant different.
	--do--	MIG	5682	29-08-2001	--do--	Pending	--do--	--do--	
4.	HRSRGS	MIG	1639	Not given	Ajit Singh	Pending	Colour	Column not	Name, father's name

					Thakural			provided	address, DOB same
	VKHIG#	HIG	28558	14-09-02	--do--	Demand letter	--do--	No.	
5.	NHRS##	HIG	1212	11-06-2002	Iqbal Singh	Demand letter	Colour	No	Name, Father's name, address, photograph, signature match but address different..
	JHRS	Janta	67320	26-02-96	--do--	Pending	B&W	No	
6.	NHRS	Janta	6562	Not given	Ashish Dhar	Demand letter	Colour	Registered in JHRS scheme, priority no.84104	Name, Father's name address, photograph signature matches.
	JHRS	Janta	84104	Do	Do	Pending	Do	No	
7.	JHRS	Janta	18755	5-2-96	Fateh Mohd.	Pending	--do--	No.	Name, Father's name, photo and address are same.
	NHRS	Janta	2640	12-06-02	--do--	CD papers issued	--do--	No	
8.	NHRS	LIG	5311	20-05-02	N.K.Dhenish	Demand letter	--do--	Registration in JHRS Priority number 7563	Name, Father's name, Photo address and handwriting matches.
	JHRS	Janta	7563	24-02-96	--do--	Pending	--do--	No	
9.	AAY5	LIG	10532	22-12-89	Dal Chand	Pending	B&W	No	Photograph and signature matching, date of birth and address different.



	AAY	LIG	14549	Not given	--do--	--do--	--do--	No	
10.	AAY	LIG	14269	29-12-89	Kishan Chand	Pending	B&W	No	Photograph, DOB, Address matching, father's name is different.
	AAY	MIG	10082	29-12-89	--do--	--do--	--do--	No	
11.	JHRS	Janta	26754	27-02-96	Ajay Pandey	Pending	B&W	No.	Name, Father's name, DOB, Photo, Signature same but address is different
	VKHIG	HIG	31295	14-09-02	--do--	Pending	Colour	Column not filled	
12.	JHRS	Janta	21213	27-02-96	Anil Kumar Jain	Pending	Colour	No.	Name, Father's Name, Photo, DOB, Signature same but Address is different.
	VKHIG	HIG	29383	12-09-02	--do--	Pending	Colour	Registered in JHRS regn.no.21213	

\* Special Housing Registration Scheme for Retiring Govt Servant 2001

\*\* Janta Housing Registration Scheme.

# Vasant kunj HIG Housing Scheme

## Narela Housing Registration Scheme