

Chapter 2

Department of Home

2.1 Working of Delhi Fire Service

2.1.1 Background

The Delhi Fire Service (DFS), was established in 1942. The administrative control was transferred from Municipal Corporation of Delhi (MCD) to Home Department of the Government of NCT of Delhi with effect from 10 November 1994 covering the area of 1484 square kms of NCT of Delhi. The Union Ministry of Home Affairs identified (June 2005) fire services as the first technical respondent in manmade and natural disasters. The Report of Comptroller and Auditor General of India for the year ended March 2001 highlighted various deficiencies in the functioning of DFS like inadequate number of fire stations, equipment and water resources which are still persisting.

2.1.2 Audit objectives

In this report, we assess whether:

- the objectives of setting up of DFS were achieved;
- the prescribed financial principles for budgeting, release and utilization of funds were followed;
- a system of manpower management and deployment of equipment was in place;
- the training was conducted in an efficient manner and the monitoring mechanism was effective; and,
- the preparedness for disaster management was adequate.

Audit Findings

2.1.3 Financial Management

2.1.3.1 Budget and Expenditure

Details of budget allocation and actual expenditure incurred by the

Department during 2004-05 to 2008-09 are given below:

Table 2.1: Budget allocation and actual expenditure

(Rupees in lakh)					
Year	Budget allocation		Expenditure	Savings	Per cent of Savings
2004-05	Non-Plan	2518	2501	017	0.68
	Plan	1495	1183	312	20.87
2005-06	Non-Plan	2840	2658	182	6.41
	Plan	1190	1143	047	3.95
2006-07	Non-Plan	3680	3652	028	0.76
	Plan	999	850	149	14.91
2007-08	Non-Plan	3255	3198	057	1.75
	Plan	511	476	035	6.85
2008-09	Non-Plan	4871	4568	303	6.22
	Plan	1400	1045	355	25.36
Total	Non-Plan	17164	16577	587	3.42
	Plan	5595	4697	898	16.05

From the above table, it can be seen that there were savings ranging from 3.95 to 25.36 *per cent* in Plan head in all the five years. The department stated that savings under Plan head were due to (i) non-opening of new fire stations, and, (ii) non-procurement of machinery and equipment as they were not found as per specifications.

2.1.4 Implementation

2.1.4.1 Inadequate fire stations

During the Tenth Five Year Plan 2002-2007, the proposal for establishing/operating 63 fire stations was revised to 70 fire stations in order to provide adequate fire safety cover in each assembly constituency. However, against the target of 70 fire stations, Delhi Fire Service has only 50 fire stations (including Okhla Phase-I working in Porta Cabin) as of June 2009. Thus, the objective of providing adequate fire safety cover to each assembly constituency remained unfulfilled which is one of the major reasons for delayed response to rescue calls.

2.1.4.2 Delays in construction of fire stations

Audit scrutiny of records relating to construction of fire stations revealed that DFS paid Rs. 0.82 lakh during July 2002 to March 2006 to DDA for allotment of land for construction of three fire stations at Vasant Kunj, Golden Park and Alipur. DDA had not allotted the land in Vasant Kunj and possession of land was not handed over in two other cases. In nine other cases, although land for construction of fire stations was handed over by DDA between September

1996 and October 2008, but the construction work of fire stations could not start as DFS failed to get clearance of building plans from local bodies like DDA, MCD etc.

The Department admitted (January 2010) the audit observation and stated that it was largely dependent on the efficiency of other agencies involved in granting various permissions and those involved in construction of buildings. The process of allotment and handover/possession of the plot by the local bodies such as DDA/MCD, followed by preparation of building plans by PWD and further approval by DDA/MCD/DUAC etc, before commencement of actual construction work was a time consuming process and beyond the control of the department.

2.1.5 Manpower management

The men-in-position *vis-a-vis* the sanctioned strength in respect of various categories of operational staff in DFS as on 31 March 2009 is as follows:

Table 2.2: Men-in-position *vis-à-vis* sanctioned strength (operational)

Sl. No	Category	Sanctioned strength	Men-in-position	Vacant post	Percentage of vacant post	Persons posted in headquarters	Percentage shortage of operational staff in field
1	Station Officer	67	43	24	36	05	43
2	Sub-Officer	172	82	90	52	nil	52
3	Leading Fire man	422	160	262	62	09	64
4	Fireman	2367	1298	1069	45	26	46
Total		3028	1583	1445			

Against the total sanctioned strength (operational) of 3028, only 1583 men were in position as on 31 March 2009. Thus, there is a shortage of staff to the extent of 48 *per cent*. The shortage in operational staff, i.e., Station Officer (SO), Sub-officer, Leading Fireman (LF) and Fireman (FM) ranged from 36 to 62 *per cent*. Thus, the shortage of LF and FM who are the main operational staff indicated that DFS was not adequately equipped to meet challenges of fire emergencies/disasters.

Shortage of the staff had also been pointed out in the CAG's Audit Report (ending March 2001), and the Principal Secretary (Home), Government of NCT of Delhi had assured the PAC of Delhi Legislative Assembly (November 2004) that the process of recruitment of staff had been expedited. However, no serious action had been taken resulting in suboptimal levels of performance.

The Department stated (January 2010) that filling up of vacancies could not materialize in time. However, the matter had been taken up with Delhi Subordinate Services Selection Board.

2.1.6 Fire/rescue calls

The details (**Appendix-2.1(a)**) of fire calls, rescue calls and other calls attended, loss of lives and property due to fire and property saved by DFS during the last five years revealed that the number of fire rescue calls received in DFS have increased from 14232 to 16452 (15.60 *per cent*) during the period 2004-05 to 2008-09. The number of lives lost has been increasing over these years with the exception of 2005-06. The loss of property has also increased from Rs. 46.81 crore to Rs. 59 crore (26 *per cent*) during 2004-09. But at the same time it was noted that the Department had saved properties amounting to Rs. 985 crore during the last five years.

The Department attributed the increased calls to incidents other than fire accidents such as building collapses, suicides, drowning, road/rail accidents, terrorist attacks etc, which though not fire accidents, are responded to by the Delhi Fire Service.

2.1.6.1 Poor response time

According to Standing Fire Advisory Council (SFAC) norms, the first fire engine should reach the place of incident within five minutes of a call in urban areas. In fact SFAC suggested that for all high rise hazards and closely built up areas response time of a maximum of 3 minutes should be aimed at and for all other areas the response time should not exceed five minutes. Test-check of records revealed that no data for response time was maintained by the DFS till May 2008. Test-check of three months (June, October 2008 and March 2009) revealed that out of 3950 rescue calls received only in 918 (23 *per cent*) cases did the fire tenders reach the spot within five minutes. In 2472 cases, the fire tenders reached the spot with a delay of one to 15 minutes and in 560 (14 *per cent*) cases with a delay of more than 15 minutes. Thus DFS had not been able to meet the SFAC norms in respect of 77 *per cent* calls, which resulted in aggravated damages to public property and life and even caused public outrage. The reasons for delay in reaching the affected place attributed by the Department were: (i) uneven distribution of fire stations which varies the distance between the place of incidence and the fire stations, and, (ii) time of incidence and terrain of the place like in day time when the traffic is at its peak. Department further stated (January 2010) that the proposal for increasing the number of fire stations was taken up with the master plan committee for Delhi. Delhi Master Plan 2021 has incorporated the provision of one-hectare land for construction of fire station within every 3 to 4 kms of

new developments, which if implemented will certainly improve the response time.

The reply is not acceptable because neither had a proper study or survey or planning been carried out nor any risk hazard analysis conducted by the Department in order to ensure rational distribution of fire stations throughout the area of its jurisdiction.

2.1.7 Equipment

An important requirement for efficient fire fighting is the availability of adequate number of standardized fire fighting equipment.

There were 50 fire stations in the NCT of Delhi as on 31 March 2009. The requirement of fire fighting equipment assessed by the Department and the number of appliances available with DFS as on 31 March 2009 were as under:

Table 2.3: Requirement vis-à-vis availability of fire fighting appliances

Sl. No.	Name of the appliance/equipment	Basis of assessment of requirements	Requirement as per assessment (Nos.)	Actual appliances available (Nos.)	Shortage	Percentage Shortage
1	Water Tender	2 per fire station + 20% reserve	120	105	15	13
2	Heavy water tender (Water Bowser)	1 per fire station + 20% reserve	60	37	23	38
3	Rescue Tender	1 per Division + 20% reserve	06	03	03	50
4	Foam Tender	1 per Division + 20% reserve	06	02	04	67
5	Hose Tender	1 per Division + 20% reserve	06	02	04	67
6	Control Van	1 per Division + 20% reserve	06	04	02	33
7	Hydraulic platform	1 per Division + 20% reserve	06	05	01	17
8	Dry Chemical Powder Tender (DCP tender)	1 per Division + 20% reserve	06	05	01	17

As may be seen from the above table, there was shortage of appliances ranging from 13 to 67 *per cent*, which clearly indicates that the Department was not well equipped with fire fighting appliances to ensure fire safety and combat fire hazards.

A test-check of records revealed that out of 105, the number of water tenders that remained out of order during June, October 2008 and March 2009 were 34, 47, 52 water tenders respectively. Also, out of 37 water bowsters, 9 remained out of order during these three months. The Department stated (January 2010) that sometimes there was delay in repairing of vehicles as the spares required were not available in the market and the same were procured from the manufacturer of the chassis.

The reply is not acceptable as the relevant records revealed that the situation (vehicles remaining out of order) was prevailing throughout the year. Further,

DFS was getting the vehicles repaired from authorised service centers/ Government approved workshops namely Tata, Leyland, Qualis, Ambassador, Hero Honda, Volvo where the possibility of non-availability of spare parts was remote.

It was observed that in addition to shortage of water tenders (13 *per cent*) and water bowsers (38 *per cent*), 11 out of 105 water tenders were out of order for periods ranging between seven and 37 months (**Appendix-2.2**) due to lack of prompt action for repair of vehicles by the workshop in time. Thus, DFS was not appropriately equipped to meet the challenges of fire hazards and also could not meet the standard response time.

The Department stated (January 2010) that vehicles remained out of order as these had outlived the normal life and were being proposed for condemnation and hence no repairs were taken up.

2.1.8 Workshop

As per SFAC norms, every State Fire Service must have its own Central Workshop for prompt maintenance of all fire appliances and equipment. DFS has its own workshop at Moti Nagar, Delhi for repair and maintenance of its vehicles.

Against the sanctioned strength of 63, the men-in-position ranged from 39 to 41 during the period 2005-09. While the number of fire stations and fire fighting vehicles has increased from 41 to 50 and 219 to 247 respectively during 2004-09, the men-in-position in the workshop had only decreased. Moreover, the post of Executive Engineer-Auto (Head of Workshop) was lying vacant since 1993. An analysis of repair and maintenance records of workshop revealed that most of the major repair and maintenance works of vehicles like engine servicing, overhauling, power take off unit (PTO), fire pump etc, were being done from private agencies due to lack of manpower and non-availability of facilities/infrastructure in the workshop, and only minor repairs and replacement of parts were undertaken at the workshop. Further, no technical training was being imparted to the existing staff to acquaint them with the new EURO standards. Thus, the workshop was not well-equipped and well-manned as per SFAC norms. This has resulted in expenditure of Rs. 3.79 crore on the repairs and maintenance of vehicles from private agencies during 2004-09.

Department stated (January 2010) that as per the policy of the department, vehicles were sent to the authorized service centers/ Government approved workshops where the work was done satisfactorily and with minimum loss of operating hours. It was further stated that the matter of filling up of vacancies has been taken up on priority basis.

2.1.9 Water sources of DFS

Adequate supply and maintaining a reserve of water is a must for fire fighting. DFS is responsible for adequate supply of water and in particular, provision of reserve water of one gallon per head of the population as per SFAC norms. For this purpose, it would be necessary to provide static storage tanks at various locations in the city.

2.1.9.1 Static water tanks

The Board of Officers of DFS had recommended a total number of 700 underground static water tanks in January 1976. Audit scrutiny revealed that there were only 278 underground water tanks available as of June 2009 with DFS, which were just not sufficient since they can be used only within a limited area. According to the inspection conducted in November 2008, it was further noticed that 164 (59 *per cent*) out of 278 water tanks were reported as non-functional as they were found without water or were leaking/damaged/ buried.

Audit observed that the department had made no efforts to increase the number of static water tanks to ensure fire safety as well as capability to fight fire. The non-functional static water tanks were also not made functional. In fact, the department was not even aware of the date from which these static water tanks had become non-functional.

The department stated (January 2010) that each high rise building in Delhi had captive water storage of 50,000 to 2,00,000 litres and this was available round the clock with suitable pumping arrangements. Therefore, the dependency on the static tank made on public land was confined to the areas, which did not have any high rise building. Moreover, DFS had more than eight lakh litres of water on wheels and the required quantity could be mobilized on one wireless message. Further, the repair of tank would not be cost effective.

The reply is not convincing as non-functional static water tanks available at the fire stations should have been got repaired at the earliest because an additional water storage is an advantage in terms of ready availability of water at the fire station itself in emergencies.

2.1.9.2 Provision of tube-wells at all the fire stations

In view of the perennial water shortage faced by the fire stations, DFS decided in May 1999 to install tube-wells at all its fire stations. DFS in March 2009 informed that there were 45 tube-wells in the existing 50 fire stations, out of which 12 tube-wells were non-functional, whereas in response to an audit

observation, the DFS stated in July 2009 that all the tube-wells were working, but the basic records were not made available to Audit. However, physical verification of tube-wells conducted by Audit in September 2009 revealed that as against 45 tube-wells reported by DFS there were only 42 tube-wells out of which seven* were non-functional for periods ranging from one year to five years and one tube-well was abandoned. Non-functioning of tube-wells for such long periods indicates lack of commitment of DFS in keeping its water resources ready to combat any fire emergency.

Department admitted the facts and stated (January 2010) that necessary action was being taken to keep the tube wells operational.

2.1.10 Training and Awareness programme

2.1.10.1 Training

As per SFAC recommendations, each State should establish a Training Bureau and conduct training programme for Firemen, Assistant Station Officers, Drivers, Leading Firemen and new recruits on general fire fighting, usage of breathing apparatus (BA), fire prevention and radio telephony courses.

DFS established a training centre known as Fire Safety Management Academy (FSMA), which is primarily devoted to impart training in the most scientific and up-to-date methods of fire prevention and extinction, fire engineering rescue techniques and handling of the most modern fire fighting implements to new recruits and existing members of the capital fire brigade.

DFS conducts training on need basis. Test check of records revealed that:

- No training was imparted by FSMA to lower ranked fire fighting staff during the last five years.
- No training on Fire Service Communication at Station Officer/Sub-Officer level was ever conducted.
- The infrastructure of FSMA was not sufficient to meet the requirements of fire fighting personnel. It was seen that there was no breathing apparatus gallery, fire chamber, drill tower, smoke chamber, lab, simulators, arson lab, etc, which were essential during practical sessions in training to provide simulation environment to trainees.

Department admitted (January 2010) that training of personnel did not keep pace with the requirement and attributed this to the fact that the number of fire stations had increased from 30 to 50 without any additional manpower, loss of

* Includes one tube-well at Okhla Phase-I (Para No. 2.1.9.2)

man hours due to change in duty system from 3+1 to 1+1, that made it even difficult to send the complete crew on fire appliances let alone sparing people for training. The training schedule would be maintained when fairly sufficient staff strength was available.

Department also stated that infrastructure of FSMA was inadequate and efforts were being made to acquire 25 acres of land from the Gram Sabha for establishment of full fledged facilities and efforts were on to establish a Fire Training Center in a joint venture with Airport Authority of India at Nangloi, New Delhi.

2.1.10.2 Fire safety awareness campaign

Fire service week is observed by DFS from 14 to 20 April every year. In order to create awareness on fire safety, evacuation drill in high rise buildings and other buildings such as schools, hospitals, cinema halls, etc are organized in different parts of Delhi. The DFS stated that fire safety lectures/demonstrations were organized during the years 2005 to 2008. Twelve hundred and seventy five schools, 55500 people from general public, 15200 Government Undertaking officials and 3070 Resident Welfare Associations (RWA) persons were educated about fire prevention and safety measures as given below:

Table 2.4: Fire safety lectures/demonstrations organized during 2005 to 2008

Sl. No.	Year	Name of the programme	Number of participating schools/Government Undertaking officials, general public etc
1	2005	Fire safety lecture/demo	256 schools
2	2006	Fire safety lecture/demo	461 schools
3	2007	Fire safety lecture/demo	220 schools 4200 government undertaking officials 6000 general public in Bhagidari 4500 general public in Gandhi Jayanti Exhibition 5000 general public of Disaster Management campaign/training 3000 RWA persons
4	2008	Fire safety lecture/demo	338 schools 11000 government undertaking officials 8000 general public in Bhagidari 7000 general public in Gandhi Jayanti Exhibition 25000 general public of Disaster Management campaign/ training 70 RWA persons



Fire Safety awareness programmes

The department should continue with the good work done in spreading awareness on fire safety and preparedness.

2.1.11 Deficiency in preparedness for disaster management

After the January 2001 Bhuj earthquake, the GNCTD proposed establishment of three disaster management centers (DMC) at Rohini, Laxmi Nagar and Nehru Place fire stations with the objective to strengthen search and rescue capabilities during any kind of disaster. For this purpose, three *hazmat* vans and three rescue responder vans with all rescue tools were procured in 2002. Due to shortage of manpower with DFS, the Government decided to provide manpower from Delhi Police with the responsibility of onsite supervision. Disaster management teams from DMC at Rohini, Nehru Place and Laxmi Nagar were called for in 1028, 919 and 518 cases of fire incidents respectively during the last five calendar years upto June 2009 for supporting fire fighting teams.

2.1.12 Fire Prevention

2.1.12.1 Schools running without obtaining NOC from DFS

As per January 2005 circular of Directorate of Education, all schools should have fire fighting equipments as per the specifications. In addition to this, schools must enclose a clearance certificate from DFS at the time of applying for fresh recognition/ upgradation.

Scrutiny of NOC register of the schools revealed that during the years 2004-09, 2224 schools applied for NOC. Against this, in 846 cases (Government-263, Private-410, others-173), school buildings were not provided with fire safety and preventive measures and hence required NOC was not issued. Thus the lives of the children and staff of the schools were at risk in case of a fire emergency.

The department stated (January 2010) that Delhi Fire Service did not have powers to enter the school premises unless asked to do so. Accordingly, DFS is carrying out inspection of schools in cases received in this department and issued NOC on satisfactory provision of fire safety arrangements as per circular No. 262-362 of January 2005 of Director of Education. It was also mentioned that due to lacuna in Delhi Fire Prevention and Safety Act 1986 and Delhi Fire Prevention and Fire Safety Rules 1987, DFS was not empowered to take action against the owners of school buildings (which are less than 15 metres in height) which had not taken the prescribed fire safety and preventive measures.

2.1.12.2 Inspections of cinema halls

A joint quarterly inspection of cinema halls in Government of NCT of Delhi by Fire, Electrical, Building and Health Department was initiated on the directions of Lieutenant Governor of Delhi with effect from the year 2004 onwards to check the compliance of provisions of Delhi Cinematograph Rules, 1953, 1981 and 2002.

- Test-check of records of DFS in respect of 'cinema halls inspection' of 15 out of 50 cinema halls for the period 2004-09 revealed that out of required 20 quarterly inspections for each cinema hall, in 13 cinema halls inspections ranging between 3 and 10 (**Appendix-2.3**) were not conducted by DFS.
- In one cinema hall, no inspection was conducted during 2008-09.

The department stated that licences for running of cinema halls are issued by the Delhi Police. Accordingly, the inspection of cinema halls is arranged by Delhi Police under the provisions of Rule 17 of Delhi Cinematograph Rules-2008 and the directions issued by Lieutenant Governor of Delhi from time to time. Delhi Fire Service nominates its members for the joint inspection of the cinema halls to ensure the compliance of provisions relating to fire safety.

The reply of the department is not convincing as the orders of the Lieutenant Governor of Delhi have not been complied with.

2.1.12.3 Non-observance of fire safety measures in hospitals

Test-check of records relating to fire safety measures adopted by 15 hospitals revealed the following discrepancies:

- Guru Teg Bahadur Hospital, Delhi was inspected by DFS in compliance with High Court decision about high rise buildings in the month of June 2003. It was noticed that nine out of 12 minimum fire prevention and safety measures as prescribed in the Fire Safety Rules 1987 were not adhered to.
- Similarly, general and special ward block at Lok Nayak Jai Prakash Hospital, New Delhi, also did not adhere to five out of 12 minimum fire prevention and safety measures according to the inspection note issued by DFS in November 2006.

In both cases, neither was any remedial action taken by the hospitals nor any action initiated by CFO under Section 10 of the Delhi Fire Prevention and Safety Act 1986 to enforce fire safety and preventive measures in the hospitals.

The department stated (January 2010) that orders for disconnection of essential supplies to GTB hospital and LNJP hospital have been issued and hospital authorities were being repeatedly requested to provide fire safety measures. Reply is not convincing as the CFO has not taken action against the hospitals authorities under Section 10 of the Delhi Fire prevention and Safety Act 1986 to enforce fire safety and preventive measures in the hospitals.

Interesting observations

Non-observance of fire safety measures in annual India International Trade Fair at Pragati Maidan

India Trade Promotion Organization (ITPO) organizes the annual event India International Trade Fair (IITF) from 14 to 27 November each year at Pragati Maidan, New Delhi. For casual performance license (for exhibition purpose), NOC is required to be obtained from DFS. SFAC also recommends that NOC be obtained from Fire Services for each place of public assembly. However, scrutiny of records revealed that:

- Neither ITPO nor any state pavilion had obtained the requisite NOC since 1992 although the exhibitions are being organized every year.
- Even basic requirements of fire safety measures were not fulfilled by ITPO or state pavilions despite several shortcomings pointed out by DFS, viz., non-working of fire hydrants, improper/blocked fire exit ways, and extensive usage of wooden/combustible materials.

- In November 2007, although the Deputy Commissioner of Police (IITF) New Delhi ordered that no establishment should be allowed to operate until all the stall owners, restaurants and State Pavilions obtained the NOC from the Fire Department, the exhibition started without any NOC from DFS and an incident of fire occurred on 17 November 2007 in hall number 18 in the exhibition premises. Despite this, no NOC from Fire Department was still obtained for the exhibition by ITPO or state pavilions in the year 2008. This clearly shows that DFS has not exercised its powers effectively for the enforcement of fire safety and preventive measures.

Lack of fire safety measures in Palika Bazar, Delhi

The underground air-conditioned shopping centre known as Palika Bazar with more than 350 shops was constructed in 1976 in an area of one hectare in Connaught Circus, Delhi, by NDMC and is functioning since then. As per records, more than 15,000 people are present in the shopping centre at any given time. It was observed that NOC from DFS has not yet been issued inspite of several inspections and visits by DFS over the years because complete fire safety measures were not installed by NDMC in the premises, although inspection reports admitted that highly inflammable goods were kept inside and the shops had been decorated by using wood, synthetic material etc, which constitute a fire hazard. Due to lack of action by DFS, the market is fully functional putting the lives and property of the people at risk in this fire prone area.

After this was pointed out, the department stated (January 2010) that Palika Bazar is a low rise building and not covered under the clause 6.2.4.1 of Delhi Building Bye Laws 1983 and Delhi Fire Prevention and Fire Safety Act 1986. However, on the request of NDMC, the fire safety measures were inspected and shortcomings observed during the inspection were communicated to the NDMC authorities.

2.1.12.4 High rise buildings

Delhi Building Bye-Laws, 1983 requires every multi-storied building of 15 metres and above and for special buildings like assembly, institutional, industrial, storage and hazards occupancies to have a clearance (NOC) from DFS, Delhi after ensuring conformity with the fire safety measures for the building. Section 3 of the Delhi



Demonstration of Rescue Operations at High Rise Building

Fire Prevention & Safety Act 1986 further stipulates that the nominated authority may, after giving three hours notice to the occupier of building having height more than 15 metres, enter and inspect the said building or premises for ascertaining the adequacy or contravention of fire prevention and fire safety measures.

2.1.12.5 Non-adherence to fire safety norms by high rise buildings

Delhi High Court vide its order dated 23 August 2004 directed DFS to conduct a survey and identify the high rise buildings in Delhi that did not have fire prevention and fire safety measures required under law. In the process, DFS identified 2377 buildings in Delhi and issued public notice to provide 12 minimum safety standards as prescribed under Delhi Fire Prevention Act, 1986 within 90 days. On completion of the said period, the buildings were re-inspected and it was observed that owners/occupiers did not provide the required fire safety measures and accordingly show-cause notices were issued to them asking them to why electricity and water supply connections to the buildings should not be disconnected as a penalty.

Table 2.5: The position of the identified 2377 cases as on 31 March 2009

Order issued by DFS for disconnection of supply of water & electricity	Height verification pending with MCD, DDA and NDMC			NOC issued after safety measures	Buildings found to be low rise	Show cause notice issued	Cases pending before the court	Building sealed by DFS/ MCD	Building demolished by MCD	Total number of buildings identified
812	MCD 82	DDA 08	NDMC 01	501	696	266	08	02	01	2377

Scrutiny of records revealed the following:

- The orders for disconnection of water supply and electricity were issued to the 812 owners of buildings who did not provide 12 minimum fire safety norms but the confirmation of disconnection of water supply and electricity was not on record. 812 buildings for which disconnection orders were issued included some important Government and private buildings viz., (i) Nurses and Doctors' Hostel-AIIMS, (ii) MCD Office-Civil Line, (iii) World Health Organization (WHO)-I.P. Estate, (iv) Institute of Town Planners-I.P. Estate, (v) Rajindra Bhawan-Deen Dayal Upadhyay Marg, Delhi, etc.
- In 91 cases, the height verification of the buildings was still pending.
- In 266 cases, the show cause notice for disconnection of water and electricity supply was issued but a final decision was yet to be taken.

- Regular inspection of high rise buildings as prescribed under the Act was not conducted by DFS which resulted in non-observance of fire safety measures by a number of buildings as evident from the above table. DFS failed to take any effective action against the defaulters, as per provisions of the Act ibid by imposing fine.

In response to CAG's Audit Report for the year ended March 2001, the Department assured (December 2004) PAC in the "Action Taken Note" that action was being contemplated against those unauthorized buildings, which had not taken adequate fire fighting precautions. However, no evidence was produced to Audit in which penalty, as prescribed in the Act, was imposed by the DFS. Moreover, DFS has no mechanism to check the compliance with orders issued for disconnection of water and electricity supply.

Department stated (January 2010) that the Delhi Fire Prevention and Fire Safety Act 1986, did not empower DFS to put on hold any unauthorized construction, as only the building sanctioning authorities, i.e., MCD/DDA/NDMC could do so. The reply of DFS is escapist and thus lacks conviction as it should have established a mechanism to check compliance with orders regarding disconnection of water and electricity.

2.1.13 Monitoring

The DFS does not have any worthwhile monitoring mechanism in place. The construction of new fire stations is being delayed due to lack of monitoring and coordination with the concerned agencies like DDA, MCD and PWD. Inadequate infrastructure in terms of number of fire stations has affected the performance of the department in its fire fighting operations. The Department did not have any system to carry out the regular inspection of high rise buildings, schools, cinema halls, hospitals, places of public assembly, etc, to check the adequacy of fire safety and preventive measures. In the absence of systematic monitoring in planning, funding and management of fire fighting services including regular inspections of high rise buildings, the fire fighting apparatus in Delhi remained only partially operational.

Conclusion

The fire safety and prevention measures were not adequately enforced in schools, cinema halls, hospitals, places of public assembly and high rise buildings, etc, thereby exposing a large section of population to fire hazards. Penalty as envisaged by the Act was not imposed on defaulters. A large number of water tenders remained out of order due to lack of prompt action for their repair and maintenance. Monitoring by the Department was minimal with serious implications as regards performance of the Department at various levels.

Recommendations

- Proper steps should be taken urgently for opening of required number of fire stations and deployment of adequate equipment.
- Steps should be taken to fill up the vacant posts particularly in respect of operational staff and skills of fire service personnel should be upgraded through regular drills, training, etc.
- Regular inspections should be carried out on high rise buildings, schools, hospitals, cinema halls and places of public assembly to ensure proper functioning of fire control systems and safety measures.

Department of Urban Development

2.2 Development works in Regularised-Unauthorised (R-U) colonies undertaken by the DJB and MCD

2.2.1 Background

High population growth has created tremendous pressure on existing civic and infrastructure facilities in urban areas of Delhi and resulted in growth of unauthorized colonies. Out of 607 such colonies under the jurisdiction of the Municipal Corporation of Delhi (MCD), 567 colonies have been regularized so far. Efforts are on to regularize the remaining 40 colonies.

For providing civic facilities like drinking water, sewerage facilities, roads, drains, pavements, street lighting, parks and dustbins, the Delhi Jal Board (DJB) and MCD carry out developmental works from the loans received from the Government of NCT of Delhi. As of March 2008 waterlines had been laid in 557 colonies and sewer facilities had been extended to 517 colonies. The aim of the scheme is to develop these colonies to bring them at par with the adjoining developed areas.

2.2.2 Audit Objective

In this report it was assessed whether:

- the funds allocated for the scheme were utilised by the DJB and MCD economically and efficiently.
- planning for the scheme was adequate and took into account the requirements of the colonies.
- the works undertaken were effectively and efficiently executed

- the works undertaken were effectively utilized.
- Quality control mechanism was effective.

Audit Findings

2.2.3 Funding Pattern and Financial Management

2.2.3.1 The Government of Delhi releases funds in the shape of loans to MCD and DJB. The year-wise details of funds released and expenditure incurred are as under:

Table 2.6: Details of funds released and expenditure incurred
(Rupees in lakh)

Year	Funds Released	Expenditure Incurred	Excess / (Savings)	Percentage of Excess/ (Savings)
MCD				
2004-05	4107	4105	(2)	(0.05)
2005-06	5000	4802	(198)	(3.96)
2006-07	5198	5176	(22)	(0.42)
2007-08	5222	5145	(77)	(1.47)
2008-09	5277	5167	(110)	(2.08)
DJB				
2004-05	5156	5807	651	12.63
2005-06	7442	6223	(1219)	(16.38)
2006-07	8591	7567	(1024)	(11.91)
2007-08	8283	6818	(1465)	(17.68)
2008-09	9891	7529 (Tentative)	(2362)	(23.88)

Both MCD and DJB were dependent on interest bearing loans from the Government for implementing their schemes. Audit observed that these funds were not utilized efficiently as detailed in the paragraphs below.

2.2.3.2 Funds lying unutilized in DJB

From the above table, it is seen that there were savings ranging from 12 to 24 *per cent* in DJB during 2005-06 to 2008-09. The budget allocations and expenditure were analysed in the selected 12 divisions. It was found that the divisions could not utilize the funds allocated during the period from 2004-05 to 2008-09. There were savings ranging from 9.18 *per cent* to 37.74 *per cent* in the water sector and 17.08 *per cent* to 60.25 *per cent* in sewer sector (**Appendix-2.5**). Savings were stated to be because of late release of funds by the DJB headquarters, delay in getting permission for road cutting from MCD and works carried over to the following year as they were awarded at the close of the year in February and March.

2.2.3.3 *Diversion of funds by MCD*

The General Financial Rules (GFRs) prohibit the re-appropriation of funds from plan head to non-plan head without the prior approval of the Finance Department. The sanctions issued by the Government of NCT of Delhi while releasing funds for the scheme specifically stipulate that the funds released would be utilized on the sanctioned plan scheme and not re-appropriated/ diverted to any other scheme under any circumstances.

It was seen in Audit that in total disregard of the financial rules and terms of sanctions, MCD transferred Rs. 2440 lakh from plan head to non-plan head in the form of supervision and establishment charges during the period 2004-05 to 2008-09. Approval of the Finance Department was not obtained for such diversion. The fact was also not depicted in the utilization certificates subsequently submitted by the MCD to the Urban Development department of Government of Delhi. While admitting the fact of diversion, the MCD officials stated in the exit conference (February 2010) that the finance department of MCD automatically deducted the salary cost at the rate of 10 *per cent* at the time of release of funds to the departments.

2.2.3.4 *Diversion of funds by DJB*

Scrutiny of records of four maintenance divisions revealed that 147 works involving an expenditure of Rs. 7.83 crore were executed, out of which funds of Rs. 2.39 crore (i.e. 30.52 *per cent*) were utilized for execution of 40 works in colonies other than regularized-unauthorized (R-U) colonies. Particulars of works undertaken in other unauthorized colonies/areas, which were not regularized, from the funds meant for R-U colonies are shown in the **Appendix-2.6**. Moreover, the Board had not devised any criteria for identifying colonies for taking up works. Thus, there was no clear-cut justification for taking up the works in the colonies.

2.2.3.5 *Loss of revenue to DJB due to defective/ non-functional meters.*

Instructions were issued to all Zonal Revenue Officers (ZROs) by the Director Revenue that water charges were to be recovered @ 20 Kilo Litres (Kls) per connection per month from the residents having premises with built up area upto 200 sq. metres and @ 30 Kls per month per connection for those having premises with built up area above 200 sq. metres in respect of meters which were defective or out of order. The ZROs were instructed to check randomly at least 10 premises per month of private domestic consumers in order to ascertain whether the consumers had their private defective meters replaced.

Test-check however revealed that the ZROs had not conducted the required random checks of at least 10 premises per month of private domestic consumers and other connections viz. commercial connections and bulk connections in order to ensure that the defective metres were replaced by the consumers. Thus instructions issued to secure the financial interests of the DJB and to minimize the loss of revenue were not being followed.

2.2.3.6 Development charges relating to sewerage to the tune of Rs. 358 lakh, outstanding from residents

Development charges are collected by DJB from the residents of R-U colonies. Scrutiny of information on the recovery of these charges from the residents revealed that an amount of Rs. 358 lakh was outstanding from the residents since 2004-05 in respect of ZROs of five out of eight divisions test-checked. The position is shown in **Appendix-2.7**.

2.2.3.7 Non-recovery of Road Restoration charges from MCD by DJB

The DJB had undertaken three works costing Rs. 197 lakh relating to laying of sewer lines in three R-U colonies during the period 2005-06 to 2007-08. An amount of Rs. 170 lakh was also paid by DJB to MCD as road restoration (RR) charges for the execution of these works. Subsequently these three works were abandoned after having been partially executed, though the amount of Rs. 129 lakh which had been paid to MCD for the portion of the road, which was not cut, was not recovered or adjusted from future payments to be made to MCD till May 2009.

Table 2.7: Works for which RR charges are to be recovered

Year	Name of Division	Particulars of work	Cost of work	Amount paid as RR charges	Amount of RR charges recoverable
2005-06	Dr.-XI	P/L of S/line on Bhagat Singh Road in New Govind Pura	3,61,529	3,51,907	1,99,504
2006-07	Dr.-XIV	P/L of internal S/line in Sadh Nagar-Part-II in Najafgarh Zone	1,66,51,730	1,52,32,773	1,18,83,827
2007-08	-do-	P/L of internal S/line in Sadh Nagar, Part-I	26,66,655	14,12,197	8,45,083
Total			1,96,79,906	1,69,96,877	1,29,28,414

The Construction Division Drainage-XIV had initiated action at the instance of Audit and requested MCD to adjust this amount in future payments to be made in the shape of RR charges.

2.2.4 Planning

2.2.4.1 Planning in MCD for undertaking works in R-U colonies

It is essential for MCD to conduct periodic surveys to identify the areas that require immediate attention in order to prioritize works in a cost effective manner and to draw up maintenance strategies. For this purpose annual action plans are prepared at the division level in consultation with local area representatives after assessing the needs of the colonies and sent to MCD headquarters. MCD headquarters consolidates these plans and prepares a consolidated Annual Action Plan (AAP) which is then sent to the Urban Development Department of the Government for allocation of funds. After allocation of funds, the divisions are required to execute the works strictly according to the approved plan.

2.2.4.2 Deviations from approved plans

In respect of the four test-checked zones comprising 18 divisions during the period 2004-05 to 2008-09, 3577 works valuing Rs. 21489 lakh were planned for execution, but only 2610 works (73 *per cent*) valuing Rs. 14780 lakh, as detailed in **Appendix-2.8**, were actually executed. Further, though 73 *per cent* of the targets were shown as achieved in the zones, most of the works executed were outside the approved annual plans. The deviations from the AAP ranged from 22 to 58 *per cent* in the Civil Lines zone, 55 to 79 *per cent* in the Najafgarh zone, 26 to 64 *per cent* in the Shahdara (N) zone and 14 to 94 *per cent* in the West zone, reducing the entire planning exercise to a farce.

2.2.4.3 Planning in DJB for laying of water lines and sewers in R-U colonies

These colonies had sprung up in different areas of Delhi in an unplanned manner without any relation to the water and drainage grid of the city and accordingly planning for providing water and sewer facilities starts at the colony level itself. Water sources in the form of Under Ground Reservoirs (UGRs), tube wells and Deep Boring Hand Pumps (DBHPs) need to be identified or constructed to meet the water needs of these colonies. From the information furnished by six test-checked divisions, it was seen that there was a requirement of 144.20 Million Gallon per Day (MGD) of drinking water for the population of 38.56 lakh covered by the divisions, which included the population of the R-U colonies also. The availability of water was however only 95.26 MGD, leaving a shortage of 48.94 MGD (**Appendix-2.9**). It was noticed that the divisions were not maintaining statistics for R-U colonies separately. Thus the DJB authorities had not assessed the actual water needs of these colonies so as to plan for providing potable water.

Supply of water and existence of outfall to Sewage Treatment Plants (STPs) should be the pre-requisite for laying sewer lines. Scrutiny of records in respect of 249 colonies covered by the zones test-checked revealed that sewer lines were not laid in 26 colonies as the connection to the STPs was yet to be established.

Table 2.8: Position of connection to STPs in 26 colonies

No. of colonies	Status
2	STPs under construction
3	Sewage Pumping Station not constructed for want of availability of land.
5	Trunk sewer under construction
2	Sewer lines not laid as water lines had not been laid.
14	Construction of sewer lines found not feasible.

It was noticed that in five colonies, sewer lines had been only partially laid. The reason provided in respect of two colonies was that MCD was demanding heavy RR charges for the cutting of roads. In three colonies, as the MCD had already laid storm water drains in the middle of the lanes, there was no place left to lay the sewers and the residents had unauthorisedly connected their sewers to these drains. Thus, an amount of Rs. 201 lakh, which had been paid to the contractor for laying of sewer lines in these colonies, was blocked as the portion of sewer lines already laid could not be linked with STPs.

In 24 colonies sewer lines had been laid but were not commissioned causing sewage from the colonies to flow untreated into the storm water drains. It was observed that in 15 colonies out of these 24 colonies, the lines were constructed before establishing the link to the STPs as required. As a result, an amount of Rs. 555 lakh spent on these works remained blocked from two to eight years. In the remaining nine colonies, though link with STPs had been established, the sewer lines could not be commissioned as notifications were not issued by the DJB (details in para 2.2.5.9), thus causing avoidable outfall into the storm water drains. Thus planning was shortsighted leading to wasteful expenditure on works that could not be used.

2.2.4.4 Shortfalls in achievement of annual targets

As per existing practice in DJB, the divisional authorities and their respective zones are required to fix annual targets for laying of sewer lines in the R-U colonies where waterlines already existed or where facility of water was already available to the residents.

Out of four construction divisions test-checked, two divisions Dr. (C) X and XIV, had fixed targets for laying sewer lines in the colonies but the targets could not be achieved and there were delays in laying of sewer lines ranging from one month to 40 months.

In the test-checked eight maintenance divisions, the targets for providing drinking water to each resident were fixed by only two divisional authorities @ 30 to 35 gpcd. These divisions had however not achieved the targets. The divisional authorities replied that the targets could not be achieved due to scarcity of water. Three divisions intimated that no targets had been fixed for providing water to the R-U colonies under their jurisdiction. Three divisions* did not furnish any reply.

Out of eight maintenance divisions of DJB, four maintenance divisions comprising 143 colonies were to lay 60.70 kms of sewer lines and 39.57 kms of water lines during 2004-05 to 2008-09, but only 45.09 kms of sewer lines and 29.75 kms of water lines could be laid. Thus, there were shortfalls of 25.71 *per cent* and 24.8 *per cent* respectively.

Division-wise position of targets and achievements in the test-checked divisions is given in **Appendix-2.10**.

In the exit conference it was clarified that targets in the water sector had the objective of fulfilling designing requirements for creation of infrastructure. As for the shortfalls in laying of sewer lines it was stated that reasons would be investigated and furnished.

2.2.4.5 Planning for maintenance of water and sewer lines

General instructions issued by DJB stipulate that wherever sewer lines have become inadequate for carrying sewage or are of the size of 150 mm diameter, they should be replaced by the required minimum size of 250 mm diameter as per prevailing norms. De-silting of sewer lines was to be done on an annual basis. It was, however, informed by the test-checked divisions that there was no prescribed schedule approved by DJB for watching the maintenance aspect of old water mains and sewerlines. It was intimated by the divisions dealing with water sector that the divisional authorities undertook the replacement/repair works only after receipt of complaints from the public and intimation by the leakage detection cell as pre-maintenance schedules are not drawn up for waterlines because they have long life spans of over 30 to 40 years.

In North East-II Division, out of the 95 DBHPs installed, only 70 were in working condition and 25 remained out of order. While there were already shortages compared to the requirement as per population, even the existing sources were not functional making the situation even worse. In the exit conference the DJB officials stated that at least 10 *per cent* of DBHPs run dry every year due to depleting ground water table.

* West-III, North East-I and South West-II.

2.2.5 Contract management and execution of works

2.2.5.1 Delay in award of works in MCD

CPWD Manual stipulates that works are to be awarded within 45 days of the receipt of tenders. However, MCD did not fix any time frame for the award of works after opening of tenders. It was observed that there were inordinate delays in award of works even after identifying the lowest tenderer. An analysis of 283 contracts revealed that only 51 work orders were issued within the period of 45 days and the remaining 232 work orders (82 *per cent*) were issued with significant delays of 46 to 340 days as tabulated below:

Table 2.9: Delay in issue of work orders

No. of works	Delay ranging from
119	46-90 days
37	91-120 days
39	121-150 days
14	151-180 days
23	181-340 days

Scrutiny of work files did not reveal any reasons for delay in issuing the work orders to the tenderer. Thus the works got unduly delayed depriving the beneficiaries of the facilities intended to be provided. Reasons for delay in award of works were called for but reply was not received as of February 2009.

2.2.5.2 Non-execution of contract agreements with contractors on award of works in MCD

Rule 204 (vi) of GFRs stipulates that contract documents should be executed within 21 days of the issue of letter of acceptance without which sufficient ground is created for annulment of the award and forfeiture of earnest money deposited by the contractor.

Test-check of 16 cases involving works valuing Rs. 58.48 lakh in two divisions revealed that contract agreements were executed after nine to 235 days from the stipulated date of completion of works. Thus, the department was not following the GFR provisions. It was further noticed that at the time of making the full and final payment to the contractor for the work done, department did not forfeit the earnest money amounting to Rs. 1.06 lakh which resulted in loss to the department to that extent. While admitting the fact, the MCD officials stated in the exit conference that contract agreements were made at the time of final payment in case of small works. Now with the introduction of e-tendering from February 2009, it would be ensured that no work order will be given to a contractor beyond his financial limit.

The fact, however, remains that the risk of loss to Government existed in the intervening period.

2.2.5.3 *Non-commencement of works by contractor in MCD*

CPWD works manual stipulates that if a contractor fails to commence a work by the 15th day from the date of letter issued to him or such time period as mentioned in the work order, the Engineer-in-charge shall be at liberty to forfeit the whole of the earnest money absolutely. Further, the enlisting authority shall have the right to remove the contractor from the approved list of contractors in case the contractor fails to execute the work satisfactorily, on time and with good quality.

The EE- M-III, Shadhara (N) Zone awarded 24 works of “Strengthening of road by providing mastic asphalt and bitumen” with a contractual value of Rs.116 lakh to M/s Sona Consultants & Contractor during the period from July 2008 to September 2008. Scrutiny of records revealed that the contractor M/s Sona Consultants & Contractor had completed only three works (awarded in the month of July 2008) valuing Rs. 12.93 lakh with a delay of two to three months for which the department had granted extension of time. The 21 works had not been started (May 2009) by the contractor even after a lapse of five to seven months from the date of award of work. Reasons for non-execution of these works had not been found on record. The division had, however, not taken any action against the contractor or forfeited the earnest money of Rs. 2.37 lakh. Further, despite the contractor not executing the earlier awarded works, the division had awarded five more works valuing Rs.32.67 lakh to him in the months of August 2008 and September 2008.

2.2.5.4 *Undue benefit to contractors by giving extension of time without levying compensation for delay in completing works in MCD and DJB*

CPWD works manual stipulates that, if due to any hindrance at site, the contractor fails to complete the work within the stipulated period, the contractor is required to apply for extension of time (EOT) within 14 days from the date the hindrance arises, in writing to the Engineer-in-Charge. Further clause 2 of contract stipulates that if the contractor fails to complete the work on or before the contract or extended date of completion, he is liable to pay compensation for delay up to 10 *per cent* of tendered value of work.

Audit scrutiny of 150 test-checked cases for the period 2004-05 to 2008-09 in nine divisions having tendered value of Rs. 531 lakh revealed that the competent authority had granted EOT to the contractors for periods ranging from six days to 472 days from the stipulated date of completion, after the

completion of work. The post-facto extensions of time were granted on the ground that the works could not be taken up/completed by the contractors due to resistance from the public in removing encroachments from the sites. The division had thus granted undue benefit to the contractors by not levying the compensation for delay amounting to Rs. 53.10 lakh. The reason recorded for grant of EOT was not acceptable because as per the provisions of the manual, the difficulties likely to be encountered in completion of the work should have been foreseen at the time of preparation of estimates itself.

Similarly during test-check of the records of DJB it was noticed that in 12 cases in three out of 12 divisions, the contractors had not applied for extension of time and the works were not completed by the scheduled dates. In all such cases, the divisions had not recovered liquidated damages at 10 *per cent* of the contractual amount to the tune of Rs.26.81 lakh from the contractors which resulted in undue benefit to the contractors.

2.2.5.6 Incomplete works in MCD

Time allowed for execution of works or the extended time in accordance with the conditions should be the essence of the contract. As already stated, 10 *per cent* of tendered value is leviable as compensation for delay in execution of works where the fault lies with the contractor. Further, final payment for works costing more than Rs. 5.00 lakh should be made to the contractor within six months and for other works within three months from the actual date of completion of work.

It was observed that 53 works having contractual value of Rs. 541 lakh which were to be executed during the period 2004-05 to 2008-09 have not been completed so far (July 2009) and have already been delayed for periods ranging from 10 to 52 months as tabulated below:

Table 2.10: Delay in completion of works

(Rupees in lakh)

Zone	No of works	Tendered Value	Contractual value	Amount paid to the contractor	Percentage of payment made to contractor	Period of delay (in months)	Penalty to be levied
Shahadra (N) Zone	13	37.03	42.25	35.34	83.64	12-52	3.70
West Zone	8	42.17	56.70	49.86	87.94	11-38	4.22
Najafgarh Zone	15	234.40	270.72	268.79	99.29	10-47	23.44
Civil line Zone	17	147.26	171.31	145.34	84.84	10-33	14.73
Total	53	460.86	540.98	499.33	92.30	10-52	46.09

The contractors had not submitted completion certificates or final bills in respect of these works. However, the department had already released an

amount of Rs. 499 lakh to the contractors, i.e., 92.30 *per cent* of the contractual value of the works of Rs. 541 lakh. Penalty of Rs. 46.09 lakh to be levied on the contractors for failure to complete the works in time was not levied. In the absence of hindrance registers, the reasons for the delays in completion of works could not be ascertained.

In respect of 24 works where 92 to 100 *per cent* of contractual value had been paid, final payments had not been made and works had not been certified as being complete even though four to 31 months had lapsed since their stipulated date of payment. As final payment meant certifying the works as complete in all respects in terms of actual quantities executed against the quantities required to be executed according to the work orders, the prescribed specifications and the quality of works executed, the authorities by not certifying the works as complete had absolved themselves from this responsibility though the department had already made the payment to the contractors. The Engineer-in-Chief stated in the exit conference that the concerned firms/agencies would be blacklisted.

2.2.5.7 Delay in execution of works resulted in escalation in cost of works in DJB

During the course of test-check of records of 12 divisions, it was noticed that in 54 out of 137 test-checked works, there was cost escalation to the tune of Rs. 82.65 lakh. Of these works, 16 works valuing Rs. 38.23 lakh were not completed in time. 38 works valuing Rs. 44.42 lakh though stated to have been completed in time were completed at a higher cost without any recorded justification for the increased cost in terms of change in scope of work, increased quantities, etc. DJB had incurred an extra expenditure of Rs. 82.65 lakh due to the cost escalation besides the delay in provision of facilities to the residents of these colonies. The position is given in **Appendix-2.11**.

2.2.5.8 Non-obtaining of clearance certificate from Labour Officer by MCD and DJB

Clause 45 of contract stipulates that amount of security deposit shall not be refunded till the contractor produces a clearance certificate from the Labour Officer. After completion of work the contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge.

It was noticed that the division had not intimated the Labour Officer about completion of work in any of the cases test-checked and released security deposits of the contractors after completion of maintenance period of 12 months from the date of completion. Scrutiny further revealed that security deposits amounting to Rs. 434 lakh in respect of 1191 works in four zones had

been released to the contractors during the period 2004-05 to 2008-09 without observing the codal provisions. This had defeated the very purpose of protecting workers interest for which the condition was incorporated in the contract.

In the 12 test-checked divisions of DJB, security deposits amounting to Rs. 3.01 lakh in respect of five works were released to the contractors by the Engineers-in-Chief without obtaining clearance certificates from the Labour Officer, overlooking workers' interest. Both MCD and DJB agreed in the exit conference to issue directions reiterating the contract conditions.

2.2.5.9 Delay in making the sewer line functional due to non-issuance of notification

The main function of the construction division of DJB is to lay sewer lines in colonies under its jurisdiction. After the sewer lines are laid, the divisional authorities, to enable residents to get sewer connections, issue notifications. After notification is issued, the lines are handed over to the maintenance division for their maintenance.

The main function of maintenance division is to lay water lines in colonies and to undertake maintenance work, repair and replacement of waterlines as well as of sewer lines. In addition to this, the division is also responsible for collection of revenue from the residents.

Test check revealed that in nine R-U colonies, involving two construction divisions namely Drainage (C) X and Drainage (C) XIV, sewer lines which had been laid at a cost of Rs. 735 lakh during 2007 to 2009 had remained non-functional for want of issue of notification as shown in the **Appendix-2.12**. The divisions intimated that the matter of issue of notification was under approval (July 2009).

In two R U colonies under the jurisdiction of Drainage (C) XIV, sewer lines had already been laid, made functional and notified but were not handed over to the maintenance division as of May, 2009. As a consequence, the residents were deprived of the intended benefits of the scheme.

2.2.6 Quality Assurance

2.2.6.1 Quality control mechanism in MCD

The quality control circle (QCC) and concerned SE and CE of the zone acting as third party are responsible to ensure the quality of works costing Rs. 2 to Rs. 25 lakh by picking random samples of material used at site for execution of works. The inspection should be conducted in three stages in case of drain

works and Ready Mix Concrete (RMC) pavement to ensure the quality of work done by the contractors as detailed below. No payment should be made to the contractor until satisfactory report had been received from the third party.

Table 2.11: Stages of quality check of works

Type of work	1 st stage	2 nd stage	3 rd stage
Drain work	At the time of fixing of levels	During construction stage	Final stage
RMC pavement	At the time of preparation of base	During laying of RMC/level/camber [#]	Final stage

During test-check of work orders issued and executed by the divisions during the period from January 2007 to 2008-09, 203 works valuing Rs. 2130 lakh were required to be tested by the third party. However, only 60 works (30 *per cent*) valuing Rs. 501 lakh were tested in the four zones as shown below:

Table 2.12: Actual number of works tested vis-à-vis requirement

(Rupees in lakh)

Name of Zone	Total No. of works required to be tested by				Works actually tested				Short fall/(Percentage)					
	QCC/CE		SE		QCC/CE		SE		QCC/CE			SE		
	No of works	C ³ . value	No of works	C. value	No of works	C. value	No of works	C. value	No of works	C. value	Amt. paid to cont ⁵ .	No of works	C. value	Amt. paid to cont.
Shahadra (N) Zone	44	313.98	13	47.34	9	65.13	6	23.53	35	248.85	242.76 (97.55)	7	23.81	23.78 (99.87)
West Zone	35	324.65	16	55.91	14	136.84	3	12.96	21	187.81	182.77 (97.32)	13	42.95	42.03 (97.85)
Najafgarh Zone	44	945.10	16	69.7	21	177.45	NIL	NIL	23	767.65	767.24 (99.95)	16	69.7	68.72 (98.59)
Civil line Zone	24	240.68	11	42.84	6	80.01	1	4.71	18	160.67	126.00 (78.42)	10	38.13	37.97 (99.47)
Total	147	1824.41	56	215.79	50	459.43	10	41.2	97 (65.98)	1364.98	1318.78 (96.55)	46 (82.14)	174.59	172.46 (98.77)

[#] mildly curved surface

³ contractual

⁵ contractor

As seen from the above table, overall 70 *per cent* works were not inspected by the quality control circle/ CE and concerned SE. It was further noticed that in all the cases where inspection had not been conducted, payments ranging from 78 to 99.95 *per cent* of the contractual value of the work had been made to the contractors in disregard of the above provision.

Test-check of inspection notes of QCC for the period from January 2007 to March 2009 revealed that the inspections were not carried out as per prescribed stages, i.e., at three different stages. Inspections were conducted only at the first and third stages. Inspections at first stage were carried out by the QCC at the time of starting of work by lifting the samples of material used in the work for testing in the designated lab and the third and final inspections were carried out after completion of work whereas middle stage inspections were not conducted at all. As a result the quality of the hidden items such as laying of brick aggregate, demolition cement concrete, earth work in excavation, providing and laying in position Reinforced Cement Concrete (RCC), etc, was not known. Moreover, the inspecting officers mentioned nothing in the first inspection report about the fixing of levels and quality of preparation of base, which was a lapse on their part.

Test-check of 50 works' inspection reports issued by QCC revealed that rectification/compliance of the observations/findings pointed out by the QCC at the time of first inspection was not furnished by the divisions to the QCC during subsequent inspections. Deficiencies detected by QCC during final inspection of the works which were pointed out in its inspection reports and communicated to the divisions for rectification included observations such as the variation in thickness in laying of Ready Mix Concrete (RMC), local undulation, no expansion of joints provided in RMC, footprints/wheel tyre prints on the RMC etc. In the absence of any documentary evidence in the records of the divisions, Audit could not verify whether or not the deficiencies were rectified. Thus the overall quality of these works is doubtful.

Quality check of works awarded at abnormally low rate (ALR) not conducted by MCD

As per departmental instructions if the rate quoted by the lowest tenderer is found abnormally below justified rates, the payment to the contractor for the work shall be made after inspection of the work by the QCC at different stages.

Table 2.13: Works awarded at abnormally low rates

(Rupees in lakh)				
Zone	No of ALR cases	Contractual value	Amount paid to the contractor	Percentage of payment
Shahadra (N) Zone	13	42.70	41.50	97.19
West Zone	11	33.85	33.60	99.26
Najafgarh Zone	2	2.19	2.19	100
Civil line Zone	-	-	-	-
Total	26	78.74	77.29	

It was observed that in 26 cases of abnormally lower tender rates the works were not inspected by QCC whereas payments had been made to the contractors ranging from 97 to 100 *per cent*.

2.2.6.2 Quality control mechanism in DJB

As per provisions contained in para 5.2.1 of CPWD Manual, it is incumbent upon various officers concerned with the work viz. Sr. Architect/Architect/SEs/EEs(Civil)/AE and JEs to inspect the work frequently to ensure that the works are being executed in accordance with design and specifications laid down for the purpose. Primarily an officer who records and test-checks the measurement book for an item of work is responsible for the quality and quantity and dimensional accuracy of the work he has measured/test-checked.

In the case of 12 test-checked divisions (Construction and Maintenance), in respect of the works executed by the divisions, separate certificates in support of inspections conducted by the concerned competent authority were not found recorded in the relevant records. Thus, quality of works through inspections was not being ensured.

2.2.6.3 Quality check of works by an independent consultant

To ensure qualitative execution of works carried out by MCD, Audit conducted physical inspection of works by engaging an independent consultant. Out of 57 works, executed by various divisions under the jurisdictions of four selected zones, 15 works (Roads and Drainage) were selected for this purpose. These works were executed between April 2008 to March 2009 (Roads) and January 2009 to March 2009 (Drainage). The physical inspection reports submitted by the consultant revealed the following:

Level surfaces were not ensured for the pedestrians. Proper ramps at the entrances of lanes from main road were not constructed in a few cases for smooth flow of traffic. The manholes were raised above the road surface in

almost all works inspected. The top levels of new drains ended abruptly and were not provided with CC ramps for smooth matching of the surface of new drain with the existing outfall drain. Slabs of drains were found missing at many places. It was stated that these had been stolen. While this could have been the case in places where the slabs were missing in the middle of the path, it was seen that slabs had not been placed at the end points at the intersections of the drains with the roads leaving large gaps. These pre-cast slabs were also not mostly evenly placed. Also the level of road and drain covering was not smoothly matched.

There were design flaws in the road works for the cement road panels, the design did not provide for making kota stone strip partitions for panels and along the central line of roads. Resultantly, there was a possibility of the roads cracking up due to shrinkage. In one instance the shrinkage cracks had already appeared on the road surface, which would get widened with the passage of traffic and breakage of edges. Gully gratings were not provided to prevent puddling/stagnation of water. Sufficient camber was not provided for road surface to allow proper draining of water into the gutters. Where roadside drains cannot be provided, sufficient slope could have been provided for small length lanes to drain off the water to a gutter provided at the end of the road.

As a holistic view was not taken, smooth transition with existing works was not ensured. Therefore there were cases where levels of roads near crossings were not tapered or ramps were not provided; colony drains were not properly continued into the outfall drains; drainage for runoff from road on a much higher level than a back lane constructed in a very low lying area was not provided for, and drains in many places were choked with garbage or construction rubble.

In the exit conference, the Engineer-in-Chief appreciated the audit concerns.

2.2.6.4 Quality check of potable water supplied by Delhi Jal Board

In the presence of DJB officials Audit lifted 31 water samples from six underground reservoirs (UGRs), six public taps, six residential taps and two DBHPs located in 10 randomly selected R-U colonies. These samples were put to essential physico-chemical and bacteriological tests in recognized laboratories to ascertain the fitness of water for drinking purposes.

It is noteworthy that all water samples (29) collected from the UGRs and connected taps in public areas and residences passed the quality tests and were found fit for drinking purposes.

However the following two water samples collected from the two Deep Boring Hand Pump (DBHPs) failed the water quality tests and were found unfit for drinking purposes:

Table 2.14: Results of water quality tests conducted for DBHPs

Sl. No.	Name of site from where water sample lifted	Name of test	Permissible limit	Result of test
1.	DBHP, LIG Flats Loni Road,	1. Colour –Pt-Co scale 2.Total Hardness (as CaCo ₃) (Mg/ lt) 3. Residual free chlorine (mg/lt) 4. Caliform org MPN/100 ml	5 Max. 200 Max 0.2 min ≤10	10 230 Nil 24
2.	DBHP Ashok Nagar	1. Colour –Pt-Co scale 2. Turbidity NTU 3. Iron (as Fe) (Mg/lt) 4. Caliform org MPN/100 ml	5 Max. 2.5 Max 0.1 Max ≤10	20 40 0.2 56

Generally DBHPs are installed by the DJB on the basis of population of area/division, requests received from the residents welfare associations (RWAs) and requests received from the area MLA. Accordingly, it is incumbent upon the DJB to test the quality of the water from the DBHPs before opening them to the public.

In the exit conference, the Member (Water & Drainage) stated that such DBHPs would be painted red to warn users.

Conclusion

The MCD and DJB were unable to efficiently utilize the loans provided by the Government of Delhi. There was diversion of funds meant for the R-U colonies for other purposes. Collection of development charges was not proper. Annual plans in MCD existed only on paper, as they were not followed in the divisions. DJB did not have colony level statistics. A good part of the reported expenditure was a waste, as sewers could not be used. Contract management of MCD suffered from several weaknesses. Works were not awarded to contractors in time after opening of tenders. Timely completion of works was not being ensured and *postfacto* extensions of time were granted without levying penalties. The quality control system was not effective in MCD as the required percentages of works were not subject to quality check. There was no follow up on inspection reports to see if the rectifications had been carried out. DJB had no documentary proof of quality check of works having being conducted.

Recommendations

On management of funds

- DJB should streamline release of funds in the beginning of the year itself to the divisions.
- The DJB divisions should obtain necessary permissions from MCD authorities in a timely manner to ensure timely completion of works so that funds can be utilized efficiently.

On planning

- The approved annual action plan of MCD should be made available on the MCD website to facilitate department-public interface.
- DJB should document the criteria for selecting colonies for taking up works so that a uniform approach can be adopted.
- DJB should endeavour to create colony level statistics through engagement of an external agency to provide the necessary inputs for the planning process.
- DJB should complete the unfinished sewer lines by coordinating with the MCD to decide the most economical time to cut the road for laying the lines.
- DJB should formulate a policy for maintenance of the infrastructure created.

On execution of works

- MCD should follow the good practices of contract management to ensure that works are executed efficiently.
- DJB should promptly issue notifications in respect of sewer lines, which have been laid and can be put to use, so as to enable the public to use the facilities.

On quality assurance

- Quality checks should be streamlined and strictly conducted as per prescribed norms and no payment should be made without receiving the satisfactory inspection report of the third party/competent authority.
- Works monitoring should be computerized and quality monitoring be made an integral part of this.
- DJB should introduce third party inspection of works by reputed technical organizations.

- Smooth and safe surfaces should be ensured for pedestrians.
- Kota stone partitions/groove cutting should be provided for all the Ready Mix Concrete (RMC) roads to ensure their longevity.
- The water from the DBHPs should be checked for quality and where found contaminated a board should be displayed stating that the water should not be used for drinking purpose.

Delhi State Health Mission

2.3 National Rural Health Mission

2.3.1 Introduction

The National Rural Health Mission (NRHM) was launched on 12 April 2005 to provide health to all in an equitable manner. In National Capital Territory (NCT) of Delhi, the Mission was launched on 2 October 2006. The funds are provided to the State Health Society on the basis of approval of State Programme Implementation Plans (PIPs) by the Government of India. Funds received by State Health Society and the actual expenditure incurred thereagainst was as follows:

Table 2.15: Funds received by State Health Society and the actual expenditure

(Rs. in lakh)

Year	Received by SHS	Released to districts	Actual expenditure	Available funds	Percentage of 3 to 2	Percentage of 4 to 5
1	2	3	4	5	6	7
2006-07	1620.20	24.68	12.59	24.68	1.52	51.01
2007-08	3284.88	1615.34	132.56	1627.43	49.17	8.15
2008-09	6550.75	207.25	1128.64	1702.12	3.16	66.31
Total	11455.83	1847.27	1273.79	-	16.00	-

As shown in the above table the SHS released to districts only 16 *per cent* of the funds received by it from the Central Government and the districts could not utilize even this amount. The utilization by districts was only 66 *per cent* in 2008-09. The overall utilisation of funds was to the extent of only 11 *per cent* of funds made available to them.

2.3.2 Baseline survey

Household survey helps assess the healthcare requirements and identifies the underserved and unserved areas. The facility survey was not conducted upto

2007-08. However, in 2008-09, Accredited Social Health Activists (ASHAs) conducted the household survey. The Department of Health stated (May 2009) that the information was available with the districts and no consolidated report was available at the state level. In the absence of the report at the state level, the actual need/demand for services could not be taken into account for planning the future course of interventions at the state level.

2.3.3 *Unserved/underserved areas*

As of 30 January 2009, 39 unserved and underserved areas had been identified in the NCT of Delhi. The State Health Society (SHS) mentioned in the PIP for the year 2008-09 that Delhi being a predominantly urban state, the model of NRHM had to be dovetailed to this urban setting suitably. However, no action was taken to dovetail the scheme to the peculiarities of Delhi. The Department stated (April, 2009) that six mother NGOs had been engaged to provide Reproductive and Child Health (RCH) services in unserved/underserved areas allotted to them.

2.3.4 *Non-merger of health societies*

All the existing health schemes/societies, functioning independently were to come under the umbrella of National Rural Health Mission from XI five year plan. Scrutiny revealed that only three societies, i.e., Standing Committee on Voluntary Actions (SCOVA), National Leprosy Eradication Programme (NLEP) and National Programme for Control of Blindness (NPCB) have been brought under the umbrella of Delhi State Health Mission (DSHM) during the year 2007-08, but the funds of NLEP and SCOVA were transferred at the close of the year 2007-08 and funds of NPCB were transferred during the year 2008-09. Other four societies namely Revised National Tuberculosis Control Programme (RNTCP), National Vector Borne Disease Control Programme (NVBDCP), Integrated Disease Surveillance Programme (IDSP), and National Iodine Deficiency Disorder Control Programme (NIDDCP) have still (31 March 2009) not been brought under the umbrella of DSHM. The delayed/non merger of societies and delayed transfer of funds hampered the smooth implementation of the activities of NRHM in the NCT of Delhi in a unified manner.

2.3.5 *Non-formation of Rogi Kalyan Samitis (RKSs)*

Scrutiny also revealed that even after a period of two and a half years of the start of the scheme in the NCT of Delhi, RKSs have not been established at any level. The SHS informed that RKSs are being planned for all Primary Urban Health Centres (PUHCs) and hospitals. The draft Memorandum of Association along with rules and regulations is in the final stages (March,

2009) and after vetting by concerned departments and necessary approvals, would be implemented during 2009-10.

2.3.6 *Non-establishment of State Health System Resource Centre (SHSRC)*

Although a provision of Rs. 50 lakh was made in the PIP for the year 2008-09, no SHSRC has been established in the NCT of Delhi. The SHS stated (March, 2009) that the venue for the SHSRC had been identified and layout plan finalised and approved.

2.3.7 *Creation and strengthening of infrastructure*

No fresh infrastructure was added under NRHM during the period 2005-06 to 2008-09. The SHS stated (March, 2009) that it did not incur any expenditure on new infrastructure because State Government was responsible for development and construction of new infrastructure. In the years 2006-07 and 2007-08 many new dispensaries were opened and also new hospital projects were planned and initiated under various state plan schemes. It further stated that these 39 unserved/underserved areas are covered by Mobile Health Services under Directorate of Health Services.

2.3.8 *Shortage of staff*

As per the information provided by the Department it was observed that during the period 2005-06 to 2008-09 there was a shortage of 123 Medical Officers (MOs) and 773 Auxiliary Nursing Midwives (ANMs), which worked out to 50 *per cent* and 55 *per cent* respectively against the NRHM requirement. Shortage of MOs and other para medical staff shows that proper attention was not being given to the medical care of patients. The Department stated (March, 2009) that recruitment of approximately 100 MOs and 300 ANMs was proposed to be done shortly.

2.3.9 *Maternal Health*

It was observed that 24.74 lakh pregnant women were registered for Anti Natal Checkups (ANC) in Delhi during the period 2005-06 to 2008-09. Out of 24.74 lakh pregnant women there were only 7,92,140 institutional deliveries (institutional deliveries – Govt. - 6,33,715 + private - 53,231 + 1,05,194 home deliveries with the assistance of doctor, nurses, trained dai etc). This shows that 68 *per cent* deliveries were taking place in homes or small private dispensaries having no basic infrastructure for which the department had no information. It was also noticed that only 55 *per cent*

pregnant women were given 100 iron folic acid (IFA) tablets. Of these, 37,074 pregnant women, registered for ANC were under the age of 19 years.

The Department stated (March 2009) that as per annual report on registration of births and deaths, the maternal mortality rate in Delhi is 26 per lakh live births which is very low in comparison to the national figure of 301 per lakh live births, as well as below the target as envisaged under NRHM i.e. below 100 per lakh live births.

2.3.10 Involvement and regulation of Non-Government Organisations (NGOs) in Mission

NGOs were to be involved in capacity building at all levels for effective implementation of NRHM. Audit examination revealed that an amount of Rs. 94 lakh was released to NGOs during the period 2005-06 to 2008-09 but only Rs. 51 lakh were utilized by the NGOs, and Rs. 43 lakh were lying with NGOs as of 31 March 2009, for which the UCs were awaited. Audit examination further revealed that a provision of Rs. 145 lakh was made in the PIP for the year 2008-09 but not even a single rupee was released to any NGO during the year 2008-09. This shows that while provision was made in the PIP in order to get funds from the GOI utilisation certificates of previous years were not available with the SHS, indicating that effective implementation was not being ensured.

Conclusion

The NRHM in NCT did not have clear assessment of health care as evident from the utilization of the funds released by Government of India. There were significant shortages in medical and para-medical staff *vis-à-vis* requirement as per NRHM norms. Community involvement in the implementation of the scheme was lacking. IEC activities were not implemented uniformly as a few districts were completely ignored while releasing funds for IEC activities. NGOs have also not been actively involved, as no funds were released to them during the year 2008-09.

Recommendations

- The SHS should endeavour to utilise funds available under NRHM both for recurring and non-recurring nature of expenses.
- Community participation may be ensured to have transparency in the implementation of the scheme.
- Sanctioned posts may be filled on a priority basis.
- NGOs should be involved in providing medical facilities in unserved/ underserved areas.