CHAPTER-VI

PERFORMANCE EVALUATION OF DELHI AND SHIMLA MUNICIPAL CORPORATIONS

61. Theory of Local Functions

The functions of local bodies may be defined on the basis of the following three principles:

1. A local body may do anything it considers good for the civic community, provided it is not specifically prohibited by law.

2. No local body may do anything which it is not definitely entitled to by virtue of an act of state/centre legislatures.

3. That whereas by law there is nothing which is ultravires of the local body, its action may be overruled by any higher authority.

Germany is an outstanding example of the first of the principles; Great Britain of the second while the third principle operated in U.S.S.R. only. Functions of the local bodies in any country represent but a part of the sum total of the state activity. Civic or local functions which were at

one time supposed to be purely of local concern have under modern scientific analysis, been found to involve important aspects as well. They assume the character of those vital influences that shape the life of the nation. The quality of municipal administration affects the majority of urban dwellers more immediately and closely than administration at higher levels. The efficient performance of municipal services not only creates a congenial milieu for healthy and comfortable living but the municipal government also share the burden of the state and central government for promoting the well-being of the people.

The performance of any institution, public or private, is related to the business in which that institution is engaged. Because local government is in business to provide services that satisfy the needs of individual citizens, we define the performance of local government as the extent to which public officials in community are able to achieve stated economic, social or environmental conditions with a minimum expenditure of resources.

Performance has two

dimensions: effectiveness and efficiency. Performance is effective according to the degree to which a stated community condition is achieved or maintained. Performance is efficient depending on quantity of resources expended in the effort to achieve a desired condition.

6.2. Factors Affecting Performance of Local Government

Efforts to improve the performance of local government are severely hampered by the lack of framework within which to analyse the factors that effect the process of managing local government. The framework, as developed by Brain W. Rapp and Frank M. Patitucci, consists of twelve factors that effect the process of management within the local governments and therefore affects its performance. Three criteria were used in determining the factors that affect the management process in local government. First, each factor had to be sufficiently distinct to warrant separate attention. Second, each factor had to have a significant impact on the management process. Third, each factor had to make sense to practitioners as a separate area of study.

Chart No. 6. Factors Affecting Performance of Local Government

Internal Factors

- Financing & Financial Practices
- Political Leaders Municipal Managers
- Inter-Governmental Structure
- Management
- Performance
- Process
- Inter-Governmental Relationships
- Judicial System
- Municipal Employees & Employees Union
- Management Tools & Analytical Support
- Exogenous Elements
- Media
- Citizens Private Interests
According to Rapp and Petitucci, there are a number of ways to classify these twelve factors. The first is to classify them as internal and external factors. Internal factors are those which are within the legal, political and administrative structure of local government, whereas external factors exist outside. Second, factor may be classified depending upon the ways in which they affect performance, i.e. directly and indirectly. A third way to classify the twelve factors is as follows:

I. People-related factors: (decision Makers)
(a) Political leaders.
(b) Municipal managers.
(c) Municipal employees and their unions.

2. Management Systems: (tools used)
(a) Management tools and analytical assistance.
(b) Financing and financial practices.

3. Structure: (political and legal constraints)
(a) Internal government structure.
(b) Intergovernmental relationships.
(c) Judicial systems.

4. Interest Groups: (Human constraints)

(a) Private interests.
(b) Media.
(c) Citizen involvement.

5. Other:

Exogenous elements

In this chapter, the performance of municipal organization in some of its aspects has been analysed. As the Delhi Municipal Corporation performs a large variety of functions, it would be difficult to study the administration of each and every department. Therefore, the more important aspects of the corporation are the focus of the study. The aspects covered in case of both the Municipal Corporations of Delhi and Shimla are as follows:

1. Administration of Health Department, Delhi and Shimla Municipal corporations;
2. Administration of Provision of Water Supply in Delhi and Shimla Municipal Corporations;
3. Administration of Sanitation, Delhi and Shimla Municipal Corporations;
4. Administration of Education Department, Delhi Municipal Corporation;
5. Administration of Roads and Buildings Department, Shimla Municipal Corporation;
6. Administration of Forest Department, Shimla Municipal
In the Words of Benjamin Baker, health is the community's and nation's greatest asset. The medical and public health function has been claimed to be one of the most important functions of municipalities in Punjab both prior to and after the attainment of independence.

1. Administration of Health Department of Delhi Municipal Corporation

The health department of Delhi Municipal Corporation is entrusted with the responsibility of providing health promoting, disease preventive and curative services within its jurisdiction. The work of the department is looked after by the municipal health officer, who is assisted by deputy health officers, epidemiologist and other administrative staff. The entire area of jurisdiction has been divided into 12 different zones for administrative purposes. The zonal health officers are directly responsible for public health services in their respective zones.

---


These include:
1. Licensing of food establishments;
2. Food hygiene;
3. Population control of dogs and rats;
4. Supervision of cremation and burial grounds;
5. Health education;
6. Anti-malaria work;
7. M & CW and Family welfare work and provision of medical facilities, etc.

The epidemiologist is responsible for monitoring and control of communicable diseases.

1. Licensing of food Establishments

As per provisions of Delhi Municipal Corporation Act 1957, it is essential for proprietors of food establishments, like ice-cream factories, aerated water factories, water cooling plants, bakeries and restaurants etc., to obtain licences from the public health department.

2. Food Hygiene

The work of food hygiene is looked after by the zonal health officer with the assistance of health inspectors in each zone. The latter check the sale of unwholesome food liable to contamination by dust and files and otherwise unfit for human consumption.
3. Control of Rodents and Dogs

As per provisions of Delhi Municipal Corporation Act and the bye-laws framed thereunder, all pet dogs are required to be registered after proper immunization against rabies. This is looked over by this section along with control of stray dogs. The rat gang staff of each zone is responsible for baiting, trapping, killing rats with rodenticides.

4. Cremation Grounds

There are seventeen cremation grounds including an electric crematorium managed by Delhi Municipal Corporation. In addition, Delhi Municipal Corporation also maintains forty cremation grounds in rural areas.

5. Registration of Births and Deaths

Registration of births and deaths in the state has been carried out since January, 1971 according to the provisions of the Registration of Births and Deaths Act, 1969. The director of health services, Delhi administration, is the chief registrar of births and deaths in Delhi. He is assisted by the Director of Bureau of Economics and Statistics, Delhi Administration, and is designated as the additional(addl.) chief registrar of births and deaths. The municipal health officer also acts as the addl. chief registrar of births and deaths for the area under
Delhi Municipal Corporation's jurisdiction. Zonal health officers are also designated as registrars of births and deaths for their respective zones.

6. Communicable Diseases

A full-fledged epidemiological unit headed by an epidemiologist is entrusted with the control of communicable diseases as well as implementation of the scheme of expanded programme of immunization. Vaccinators working in different E.P.I. centres go to various places to carry out inoculations against cholera, typhoid, diphtheria, whooping cough, meningitis and tuberculosis etc. In addition to taking preventive measures against these communicable diseases, this unit also investigates the causes of outbreak of the same and of jaundice, food poisoning and gastroenteritis, etc. as well.

This unit also runs international inoculation centres for the benefit of the people travelling abroad. It is empowered to issue inoculation and immunization certificates.

7. Maternity Child Health and Family Welfare Services

The Municipal Corporation of Delhi provides maternity, child health and family welfare services through the network of municipal corporation and family welfare centres and 38 subcentres/maternity homes. These centres provided
antenatal care, domiciliary mid-wifery referral services for abnormal cases, immunization of antenatal mothers against tetanus and immunization of children against diptheria, whooping cough, tetanus, polio, typhoid, chloera, and family planning services to eligible couples. These centres also provide medicines to cure and prevent blindness due to vitamin deficiency and prephylaxis against nutritional anaemia. The scheme of universal immunization is being implemented through these centres, covering all children in the age group of 0-2 Years.

8. School Health Scheme

The public health department has started school medical scheme in which all the 12 zones are covered. The main aim of this scheme is to provide initial medical checkups to school going children and early detection and treatment of various diseases. Various ailments and congenital defects like trachoma, xerosis, amelypic, anaemia, malnutrition, heart diseases in children are detected at initial stages. Facilities for treatment of general, dental and eye diseases of minor nature are also available under this scheme at its central clinics. The scheme covers all the primary schools also.

9. Medical Relief

The Delhi Municipal Corporation Provides both general and specialized
medical services to the public in its area of jurisdiction through a network of allopathic and indigenous institutions. The table 6.1 shows the number of allopathic institutions run by Delhi Municipal Corporation.

Table 6.1
Allopathic Institutions Run by MCD

<table>
<thead>
<tr>
<th>INSTITUTIONS</th>
<th>NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Hospitals</td>
<td>12</td>
</tr>
<tr>
<td>Infectious Diseases Hospitals</td>
<td>1</td>
</tr>
<tr>
<td>Maternity Hospitals</td>
<td>1</td>
</tr>
<tr>
<td>T.B. Hospitals</td>
<td>1</td>
</tr>
<tr>
<td>Primary Health Centre</td>
<td>1</td>
</tr>
<tr>
<td>Maternity Homes</td>
<td>17</td>
</tr>
<tr>
<td>Dispensaries/Urban Health Centres/Rural Sub-health Centres</td>
<td>50 + (8 Mobile Dispensaries) + (39 Allopathic Dispensaries)</td>
</tr>
<tr>
<td>Chest Clinics</td>
<td>9</td>
</tr>
<tr>
<td>V.D. Clinics</td>
<td>3</td>
</tr>
<tr>
<td>Leprosy Clinics</td>
<td>2</td>
</tr>
<tr>
<td>Anti-Rabies Treatment Centres</td>
<td>19</td>
</tr>
<tr>
<td>Leprosy Home</td>
<td>1</td>
</tr>
</tbody>
</table>
10. Indigenous System of Medicine

The Municipal Corporation of Delhi also provides medical facilities in the indigenous system of medicine through a network of ayurvedic hospitals, ayurvedic dispensaries (2 mobile), unani dispensaries (14), mobile homeopathic dispensaries (13).

11. Health Education

"Prevention is better than cure". Therefore, imparting health education besides rendering effective medical treatment, are sine qua-non for ensuring optimum benefit to the public and achieving the target of health for all". For this purpose a small cell, the health education bureau, functions under an epidemiologist. Its main functions are to publicise the disease preventive, health promoting and curative medical services of the Delhi Municipal Corporation and also to integrate the health education activities. With the routine activities of medical institutions and national health programmes - National Malaria Eradication Programme, National Family Welfare Programme, Expanded Programme of Immunization, National T.B. and Leprosy control Programme etc., general awareness of such programme is created among the masses, group contacts, radio-television announcements etc, about seeking their active involvement. People are also contacted individually and in groups and are advised to
gainfully utilize the services rendered by Delhi Municipal Corporation through its medical and health institutions.

The cell also carries out publicity of various special drives and campaigns launched by the health department periodically. Many exhibitions, melas and special occasion like W.H.O. Day and Leprosy Day etc. are thus organized with this object in view. Health education cover is provided to mobile teams carrying out door-to-door immunization and antimalaria sprays, etc. Furthermore, hand bills, folders, cinema slides, pamphlets, posters, maps, graphs, banners, wall stencils, etc. are produced, procured and distributed through this cell. Emphasis is laid on educating the members of weaker sections of society residing in resettlement colonies, labour camps and slums to initiate preventive measures against the spread of communicable diseases.

12. Public Health Laboratory

A public health laboratory is run by Delhi Municipal Corporation. This undertakes examination of pathological specimens received from various municipal medical institutions lacking laboratory facilities. Testing of water samples received from the government and private sources for potential potability is also one of its functions.
13. Slaughter House

The health department is running a slaughter house at Idgah Road. This slaughter house has four sections: halal section, jhatka section, buffalo section and export section. Slaughtering is being done under the more hygienic conditions. Antemortem and post-mortem examination of the animals is performed by junior assistant veterinary surgeons. Care is taken that diseased and pregnant animals are not slaughtered. In addition to the supervision of work of the slaughter house, the manager of the slaughter house is also responsible for checking illicit slaughtering.

6.4 Administration of Health Department of Shimla Municipal Corporation

The corporation health officer is the local health authority of Shimla as declared by the state government. He is the overall incharge of the health department and looks after the town's sanitation. The food samples are taken under his supervision by food inspectors of the state government.

There is a public health laboratory under the charge of the corporation health

officer and there are two laboratory technicians responsible for the testing of stools, urine, water and blood. The department also provides prophylactic inoculation. The department maintains records of all registrations of births and deaths within the municipal corporations' jurisdiction. It also issues death and birth certificates as and when required. Killing of stray dogs is done by administering strychnynne tablets. DDT and other spray work is undertaken by the health department. Rat destruction is also done by the health department through administering poisonous tablets and laying cages.

1. Modern Slaughter House

There is also a slaughterhouse under the supervision of the health department, looked after by the market superintendent who is a qualified veterinary assistant surgeon. All the work of the slaughterhouse is done under his supervision. The slaughter house where goats, pigs and sheep are slaughtered is not sufficient for the purpose. Thus the organization has proposed for construction of a modern slaughter house outside the heavily populated city in a suitable place. This scheme envisages 3 modern slaughter

houses. The waste of the slaughtered animals will also be used scientifically, for this purpose the organization has engaged the services of Dr. Beillure of Bombay, the advisor to the Indian government on this subject.

Proposals have also been sent to the government for providing residential accommodation for doctors and staff. The proposal also envisages the use of modern equipment, machinery, vehicles, etc. As this scheme is very costly, the proposal has been placed in the tenth finance committee report in order to realize monetary assistance to the tune of Rs. 2 crores, and annual maintenance assistance to the extent of 20% of the total expenditure.


Though both the Corporations are providing health facilities but the health facilities provided by MCS are very less as compared to MCD. The expenditure incurred on public health by MCD in 1985-86 was Rs.310.01 lakh, Rs.353.87 lakh in 1988-89, Rs. 474.60 lakh in 1989-90. The next two years show a sudden increase an expenditure incurred on public health,

11. Information gathered through discussion with Officials of Municipal Corporation Shimla.

i.e., Rs.985.46 lakh in 1990-91 and Rs.1106.33 lakh in 1991-92. Thus there is about four times increase in expenditure incurred on public health by MCD whereas expenditure increased by MCS in 1985-86 was Rs.78.27 lakh, Rs.85.24 lakh in 1986-87, Rs.111.96 lakh in 1987-88, Rs 111.87 lakh in 1988-89, Rs.138.92 lakh in 1989-90, Rs.144.06 lakh in 1990-91 and Rs. 159.48 lakh in 1991-92. The increase in expenditure has been more gradual in case of MCD.

MCD perform various functions related to public health such as licensing of food establishments, food hygiene, population control of dogs and rats, supervision of burial and cremation grounds, providing health education, Anti-malaria works, maternity and child welfare and family welfare work etc. MCD runs a number of allopathic institutions which the MCS does not, further Public health department of MCD has started school medical scheme which is not there in MCS. Municipal Corporation of Delhi has a small cell, the health education bureau which functions under an epidemiologist but there is no such cell in Public Health Department of MCS. Thus it can be said that Public Health Department of MCD performs a wide variety of tasks as compared to its counterpart in Shimla.
6.6 Administration of Provision of Water Supply to the Citizens of Delhi and Shimla Municipal Corporations

1. Provision of Water Supply in Delhi Municipal Corporation

The Delhi Water Supply and Sewage Disposal Undertaking (DWS and SDU) is responsible for production and distribution potable water and managing, treatment and disposal of waste water as well. It also provides water in bulk to the NDMC and Cantonment Board for distribution in their respective areas.

The DWS & SDU is equipped to produce around 792 million gallons of water a day from various treatment plants, ranney wells and tubewells. To rationalize the distribution of water and to improve the pressure, a computer study of water distribution system is carried out every year. This endeavour resulted in construction of a number of ground reservoirs and booster stations in different parts of Delhi. Much emphasis was laid on providing potable water in regularized unauthorized colonies, J.J. resettlement villages, harijan basties etc.

(1) Water Supply in Regularized Unauthorized Colonies

Of 543 regularized unauthorized colonies, water has been made available to more than 95 percent of them.

(2) Unauthorized Colonies

As per information available, 318 unauthorized colonies were in existence prior to January, 1981. Water supply is being extended in these unauthorised colonies through public water hydrants, deep bore handpumps and tubewells wherever the ground water is found potable. About 456 deep bore handpumps and 12 tubewells were installed by the undertaking in these colonies upto march 1990. Drinking water is being supplied through water tankers to colonies not yet provided at source municipal water.

(3) Resettlement Colonies

Potable water is supplied in all the 44 resettlement colonies. In order to check outbreak of cholera/gastroenteritis from shallow hand pumps, all hand pumps near sullage drains and stagnant water are uprooted by the undertaking. Some are painted red with a warning that water from the same is not fit for consumption. Steps are also being taken to remove other handpumps close to sullage drains.
(4) J.J. Clusters

There are about 900 J.J. cluster spread all over Delhi. The provision of water to these clusters is the responsibility of the slum Wing (DDA). Water is supplied through deep bore handpumps and public water hydrants of the undertaking.

(5) Urban villages

There are 108 urban villages and potable water supply has been extended to all these villages.

(6) Rural Villages and Harijan Basties

Water has been provided in all the 219 rural villages and in 413 harijan basties identified by the Delhi Administration. However, during summers the villages located at the tail end of the distribution system face scarcity. To meet the shortage of water here, water supply is supplemented through tankers and syntax tanks mounted on trucks. Lone boosters have also been installed at a number of places to increase the water supply in the rural areas. Alternate source of power diesel generating set have also been provided at a number of booster pumping stations adversely affected by frequent breakdown of power supply.
(7) Quality Control

Municipal water is tested at every stage, right form production to distribution to the consumers. About 100 samples are collected daily from distribution outlets and are analysed in water testing laboratories of the undertaking. Samples from ranney wells, tubewells and deep bore hand pumps are also taken regularly and are analysed to ensure the quality of drinking water.

(8) Conservation of Water

Conservation of filtered water in Delhi has been given the highest priority. Use of filtered water in industries and for irrigation of lawns and parks has to be reduced gradually by digging more tubewells. All local bodies and group housing societies have been asked to sink tube wells for gardening of their lawns and parks. With view to avoiding wastage of potable water, all public hydrants are being provided with taps. All the leakages in the system are being attended to on a war footing.

Delhi's total dependence on neighbouring states for water along with its extensive urbanization are responsible for making a mockery of various plans aimed at orderly development of the city. These have proved to be serious impediments in ensuring
The DWS and SDU provides minimum production of treated water of 550 Million Gallons a Day (MGD) which is much lower than peak summer demand of 700 MGD. The fast depleting surface water level and its deteriorating quality (due to increased population pressure) are gradually making this source out of reach of the consumer. The losses being incurred by the undertaking through leakage due to faulty distribution system affects the treated water supply, resulting in large quantity of water loss. According to experts, about 50 percent is lost during processing and distribution. In terms of money, 68.93 crore has been lost on this account during 1989-90. The accumulated loss has been calculated at Rs. 99.42 crore. Despite heavy losses, the inefficient and wasteful system has not been addressed by the government. Instead, the leak detection cell set up in 1978 with just 51 employees was wound up in 1990 - a strange reaction of the concerned authorities, considering the massive financial losses for the decade.

(7) Yamuna Pact

Since the dispute on Delhi's share of Yamuna water is ongoing there still seems to be no
hope of an agreement being signed on Yamuna water sharing. The entire system so far based on adhocism and there seems to be no hope of positive change. Most disturbing is the absence of efforts matching the enormity of the year-by-year multiplying problem. This reflects official apathy in plugging leakage and ensuring a permanent source of raw water for Delhi residents.

In the year 2001, the population of Delhi is likely to increase to atleast 1.28 crores, possibly more if the present rate of migration is unchecked. Correspondingly, the need of water will be much more i.e. 900 MGD. Despite times passage there is hardly any governmental plan to meet this challenge on a long term basis. Highly alarming is the fact that the authorities are banking on projects still in the planning phase to meet future requirements. If the speed with which the projects in the country are being completed is any indication, all the plans are likely to go haywire.

Water is the crucial issue which is giving sleepless nights to the local government. If it is fighting for Delhi's share of Yamuna water, particularly during the summer months, 

17. *Idem.*
ensuring a proper supply of potable water to all the city's areas has been causing them further concern.

In the jhuggi clusters numbering over 900, absence of a permanent source of potable water coupled with the filthy environment—caused by the inaction of the authorities—have heightened the risk of gastroenteritis or cholera epidemics.  

Developing an efficient system of distribution for better use of available resources, does not seem to be on the priority list of the authorities. Cosmetic measures in the form of replacing a pipeline here and there or launching an occasional drive to remove illegally installed booster pumps (the schedule of the authorities for the past many years) are the norm. Political leadership and the people also hamper development. The augmentation of the system seems to have been dealt a severe blow by the predominant trend of land encroachments, be it in the form of jugghi clusters or construction of commercial complexes. Ironically, DWS and SDU have to pay a hefty sum to the juggi dwellers to get their own land vacated to lay new pipeline or construct a pumping station. The only solution is to equitably distribute water to all areas by ensuring a cut on those areas which have the privilege of 24 hour water supply. The fledging

Haiderpur water treatment plant is still being viewed as the solution to all the problems, but it would again depend on untreated water supply from Haryana. Table 6.2 shows the installed capacity of various water works at the end of five year plans.

Table No. 6.2
Installation capacity of various water works at the end of five year plans, MCD.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>1st (MGD)</th>
<th>2nd (MGD)</th>
<th>3rd (MGD)</th>
<th>4th (MGD)</th>
<th>5th (MGD)</th>
<th>6th (MGD)</th>
<th>As on March 1991 (MGD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Chandarwal</td>
<td>60</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>2. Wazirabad</td>
<td>-</td>
<td>-</td>
<td>40</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>120</td>
</tr>
<tr>
<td>3. Ranney Wells &amp; Local tube wells</td>
<td>-</td>
<td>-</td>
<td>5</td>
<td>20</td>
<td>30</td>
<td>-</td>
<td>47</td>
</tr>
<tr>
<td>4. Haiderpur</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>50</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>5. Shahdara</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>37</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>90</td>
<td>130</td>
<td>175</td>
<td>240</td>
<td>337</td>
<td>457</td>
</tr>
</tbody>
</table>

Source: Delhi Statistical Hand Book, 1992

6.7. Administration of Provision of Water Supply in Shimla Municipal Corporation

Earlier, the Shimla Municipal Corporation used to have charge of all the pumping stations but now they are being managed by the

Irrigation and Public Health Department (IPH), which looks after the water supply of the city.

The IPH Department has charge over Craignaino reservoir and Dhalli filter beds. The bulk supply of water is sold to Shimla Municipal Corporation at the rate of Rs. 2/- per thousand gallons.

(1) Distribution of Water

The distribution of water to Shimla town and its suburbs, including the areas falling outside the municipal limits, is with the municipal corporation. The water is being distributed to different areas once a day at fixed times. The distribution system constructed more than 100 years ago is grossly inadequate for and is supplying water to different areas in an equitable manner.

(2) Maintenance of Water Supply

The maintenance of water works, such as of trunk mains, gravity mains, distribution branches, metres and chlorination equipment is being managed by the corporation. The old and outlived distribution mains have been damaged and are even broken at many places. This results in vast leakage and waste, often resulting in water not reaching its destination. Thus severe water shortage is faced by the public. To address this problem the corporation also provides water through tankers.
(3) Original Works

Besides the maintenance of water supply distribution systems, the department also receives funds against rain and other damage from the state government and district level deputy commissioner. These works are being executed by the corporation. The water works department has at present just 5 junior engineers as its strength, this figure being too insufficient for the present load of construction works. Thus the works to be executed do not receive adequate attention.

(4) Revenue

Billing of water supply and its collection from consumers also lies with the water works department of the corporation. The supply is metered. In most of the cases, the water meters get damaged and become non-functional and the responsibility to replace them as fast as possible lies with the water works department. During the period of non-functionality, the bills are based on an average consumption of the previous year for the designated billing period.

Scarcity of water in Shimla is mainly attributed to shortfall in catchment areas, increase in population, tourists and dwindling capacity of the pumping stations to lift water. Against an approximate daily requirement of 58 lakh gallons of water, especially in summers, Shimla gets only 32 lakhs gallons on an average from three pumping stations at
Churat, Gumma and Ashwani Khad. The Gumma pumping station at Hindustan-Tibet road, with installed gallon capacity of 49 lakh gallons per day (GWD) actually yields only 20 lakh gallons per day. The Ashwani Khad pumping station, with the capacity of 24 lakh gallons per day, is pumping only 13 lakh gallons a day. The Churat pumping station provides about 5-6 lakh of gallons of water per day. This has resulted in curtailed water supply to several populated localities. As in Delhi, water leakage has been regular problem, it being substantial -- 10-20%.

In Shimla the water supply was originally executed in the year 1875 by a gravity main in the Dhalli catchment area for population of 16,000 persons. But the present population level has resulted in a chronic problem which magnifies in summer with tourist arrivals almost equivalent to the residents. This state persists for about 2-3 months. Adding to an already bad situation are the increased number of tourist who formerly visited Jammu & Kashmir, but no longer do so as it is a disturbed state. In view of this it would be expedient to explore the possibility of increasing Shimla's water supply by gravity.

Augmentation has been effected from time to time, the last being in 1980-81,

the total installed capacity then having been increased by 39.34 million litres a day (mld). Since the installations are very old, efficiency of pumping machinery has been adversely affected, reducing the available water supply to just 24.29 mld at the reservoir point. Table 6.3 shows the potential of the sources and installed and present capacities.

Table 6.3
Potential of Sources and Installed and Present Capacities, MCS.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of the source</th>
<th>Year of installation</th>
<th>Installed capacity (mld)</th>
<th>Present Capacity due to reduced efficiency (mld)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Upper gravity line in Dhalli Catchment Area</td>
<td>1875</td>
<td>6.81</td>
<td>0.23</td>
</tr>
<tr>
<td>2</td>
<td>Cherot Nullah</td>
<td>1889</td>
<td>6.65</td>
<td>3.86</td>
</tr>
<tr>
<td>3</td>
<td>Chair Nullah</td>
<td>1914</td>
<td>1.82</td>
<td>0.45</td>
</tr>
<tr>
<td>4</td>
<td>Nauti Khad</td>
<td>1923</td>
<td>7.72</td>
<td>19.75</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1982</td>
<td>16.34</td>
<td>24.06</td>
</tr>
</tbody>
</table>

Source: Irrigation and Public Health Department, Shimla

Water-Demand

Water demand of the

Shimla has been worked out at the rate of 135 LPCD- as per guidelines in the manual on water supply and treatment. Total water demand in 1990-91 and onwards with five year interval upto year 2021 is given in table 6.4.

Table 6.4
Water Demand of Shimla Municipal Corporation

<table>
<thead>
<tr>
<th>Year</th>
<th>Water requirement (Mld)</th>
<th>Shortfall in Supply (Mld)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>26.035</td>
<td>7.225</td>
</tr>
<tr>
<td>1991</td>
<td>26.666</td>
<td>7.956</td>
</tr>
<tr>
<td>2006</td>
<td>39.584</td>
<td>20.774</td>
</tr>
<tr>
<td>2021</td>
<td>58.142</td>
<td>39.332</td>
</tr>
</tbody>
</table>

The water requirements of Shimla make it extremely important that worn-out pumping machinery, outlived rising and conveying mains, and the obsolete distribution system be replaced immediately to meet the water demand of the projected population and to plug leakage as well.

(6) Leakage in the Existing Distribution system (MCS)

The survey conducted by National Environmental and Educational Research Institute (NEERI) in April, 1986, showed that leakages in conveying mains in the city are to the tune of 40%. The system is not only worn out but is still quite inadequate to meet the projected demand.

An average 45% wastage
due to leakage in distribution system, net quantity of water available has been calculated in the following table 6.5.

Table 6.5
Net Quantity of Water Available, MCS.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Description</th>
<th>Mld</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Water available at Reservoir Point after Pumping</td>
<td>24.29</td>
</tr>
<tr>
<td>2</td>
<td>Loss in Conveying mains</td>
<td>9.72</td>
</tr>
<tr>
<td>3</td>
<td>Loss in Distribution System</td>
<td>6.56</td>
</tr>
<tr>
<td>4</td>
<td>Net Quantity Reaching consumers</td>
<td>8.01</td>
</tr>
<tr>
<td>5</td>
<td>Per Capita Supply for 1990 population</td>
<td>42.88</td>
</tr>
</tbody>
</table>

In order to augment water supply in Shimla, the I&PH department has undertaken a project for reorganization and augmentation of the existing water supply system along with improvement and extension of the sewage system. Under this project steps have been taken to fully exploit the existing sources to improve the supply. The proposal details are the following:

(a) Upper Gravity Main in Dhalli Catchment Area

In order to take full advantage of gravity flow in the rainy season it is proposed to replace 150 mm diameter line with a 12845 m line.

(b) Cherot Pumping Station

It has been proposed to add one more pump with 720 capacity, capable of discharging 5.80 mld. of water at a total dynamic head of 415 meters.

(c) Chair Pumping Station

It has been proposed to that 2.5 mld. of water should be pumped during the lean period. In addition, plans to add one new pump capable of lifting 3.00 mld at a dynamic head of 885 m have been proposed.

(d) Nauti Khad Pumping Station (Gumma Pumping Station)

In view of lifting 28.60 of water in 20 hours during lean periods it has been proposed to provide untreated water storage of 2.40 mld. and also to provide 3 Nos. pumps.

(e) Supplementary Pumps at Gumma

One additional available flow pump of 4.54 mld. downstream is proposed to supplement the flow at Gumma.

The state government is still in the process of sending a project report on augmentation of water supply from the river Sutlej to the government of India. The object is to find a donor agency to sponsor to world bank for sanction of soft loan. This project began in the 1989 with estimated cost of Rs. 124 crore but it was abandoned midway. Another project of
lifting water from the river Pabar with tentative cost being Rs. 220.89 crores has been taken up along with the Sutlej project, tentative cost of which is estimated to be Rs. 182 crores.

6.8. Comparison of Administration of Provision of Water Supply in Delhi & Shimla Municipal Corporation

The provision of water supply by the Municipal Corporations is one of the most important tasks performed by the corporations. Since MCD has large area of jurisdiction so it has to supply adequate potable water to its citizens. For that purpose it has a separate undertaking (DWS & SDU) which is responsible for production and distribution of potable water and disposal of waste matter also, MCS has no separate undertaking for production and distribution of potable water rather water is sold to MCS at the rate of Rs.2 per thousand gallons by IPH. Both the corporations have damaged and outlived distribution systems. In the year 1991 water demand of MCS was 26.66 million litres a day (Mld) whereas that of MCD was 457 million gallons a day (MGD). By the year 2001 the need of water will rise to 900 MGD in MCD whereas in MCS—39 Mld. Despite the various efforts to provide provision of water to their citizens, the both municipal corporations have not been able to fulfil their water demand.
6.9. Administration of Sanitation in Delhi and Shimla Municipal Corporations

1. Administration of Sanitation in Delhi Municipal Corporation

The development of the sewerage system in India has been much slower than the provision of safe water. From the public health viewpoint, dealing with sewerage is as important as providing safe water. For this purpose conservancy and sanitation engineering department was set up within the Delhi Municipal Corporation in February, 1978. Since Delhi is divided into 12 different zones, sanitation and conservancy services are looked after by two or more sanitary superintendents in each zone, under the supervision of a zonal engineer (CJE) and the executive engineer (CSE), sanitation superintendents assisted by the chief sanitary inspectors and sanitary guides. Their function is to control and supervise the sweeping of roads, lanes and by-lanes including removal of refuse and garbage from dustbins and dalaos. Cleaning of Dalaos and dustbin is done regularly after removal of garbage. In
addition to regular maintenance of sanitation, the
department also organises sanitation cum-cleanliness
drives all over the city.

(i) Modernizing, Mechanizing and Strengthening of
Conservancy Services

Modernizing and mechanizing the
control and management of solid waste is one of the
department's important functions, it provides dustbins,
dalaos and steel bins for collection and disposal of
garbage. The work is carried out in a phased manner and
steps are taken to cover the dustbins at the strategic
areas to avoid bird menace. Garbage from different
localities is collected through refuse collectors, truck
tippers, loaders, sewer-jetting-cum-suction machines.

(ii) Disposal of Solid Wastes

Since the population is
continuously increasing, arrangements to
carry and treat sewerage have to be continually
adjusted. The department is maintaining various sanitary
land-fill sites. The garbage is dumped at these sites.
The sanitary land-fill sites have been chosen in such
manner that mileage of vehicles is kept to the minimum
for maximum utilization. Dumping of refuse is systematic,
the garbage being levelled with buldozers. The
department extensively sprays lime and insecticides, in
addition to taking anti-fly measures to keep the
environment healthy. After the garbage is levelled, building rubbish/malba is spread in layers over it to contain the foul smell. Sweet earth is then laid for horticultural works and environmental improvement. In plants to convert garbage into compost. Cleaning drains and nullahs, maintenance and repair of sewer-lines, running and maintenance of pumping stations are some other important functions performed by the department.

Though the conservancy and sanitation engineering department is totally responsible for sanitation in the corporation's area, only 75% of the total population is actually covered under the sewerage system. Most of the unauthorized regularized colonies lack proper sewerage. The situation is the worst in old Delhi where the heavily congested bye-lanes make it extremely difficult to replace old leaking sewer lines. The process of collection and disposal of excreta is abysmal. Industrial waste is not properly disposed off, resulting in pollution constricting breathing. An additional problem is that of numerous stagnant water ponds. Quick measures should be taken to dispose off the stagnant water which creates health problems. Industrial wastes pollute the river from chemical and textile factories in central western Delhi. Effective steps are must to curb present water pollution levels - a constant health hazard.
To sum up, the low standard of sanitation is attributed to scarcity of water, outmoded drainage system, inefficient and ineffective garbage collection. In fact, garbage collection vehicles remain out of order for most of the time. Last but not the least, there is due need of a well-planned and scientifically executed system of sanitation.

Lack of proper sanitation and resulting poor water quality has been the bane of the city in the light of its growth. Health problems are its manifestations. The sewerage system and water pipe line network has not only become obsolete but is crumbling under tremendous pressure. Unfortunately, the result is contamination of drinking water with sewerage water, the two networks being jumbled up and corroded.

As regards the sewerage system Delhi Municipal Corporation maintains 7 sewerage treatment plants at different places viz. Okhla, Coronation Pillar, Keshopur Pillar, Rihala, Shahdara, Oxidation ponds and the sewerage treatment plant at Vasant Kunj as shown in table 6.6.

------------------
Table 6.6
Capacity of Various Sewage Treatment Plants at the end of Five Year Plans, MCD.

<table>
<thead>
<tr>
<th>Sewage Treatment plant</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>As on March 1991</th>
</tr>
</thead>
<tbody>
<tr>
<td>Okhla</td>
<td>36</td>
<td>36</td>
<td>66</td>
<td>66</td>
<td>66</td>
<td>88</td>
<td>124</td>
</tr>
<tr>
<td>Coronation</td>
<td>-</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Pillar Keshopur Pillar</td>
<td>-</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>32</td>
<td>32</td>
<td>72</td>
</tr>
<tr>
<td>Rihala</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td>Shahdara</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td>Oxidation Ponds</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Vasant Kunj</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>68</td>
<td>98</td>
<td>98</td>
<td>118</td>
<td>152</td>
<td>250</td>
</tr>
</tbody>
</table>


2. Administration of Sanitation in Shimla Municipal Corporation

Shimla used to be one of the city with the best sanitation facilities in the country. During British time, the city was planned for 16000 inhabitants and there was adequate arrangement of proper sanitation and other basic amenities. But since the present population has swelled to about one
lakh and the floating population is approximately 15 lakhs, it has become difficult for the corporation to meet the required water supply necessary for proper sanitation. In Shimla, the water is lifted from a great distance, the scheme being the highest lifting one in Asia. But the inadequate water supply has adversely affected sanitation.

Presently, acute drinking water shortage especially during the summer months, is prevailing state of affairs. This has resulted in public urinals/latrines and drains/nullahs in the city getting choked and emitting stink a problem for both residents and tourists. The health department has purchased light vehicles with water tanks and one with a lifting pump attached. The department has proposed to lift water for purely sanitary requirements -- cleaning drains, nullahs public urinals -- from nearby sources. This water is unfit to drink and thus cannot be used for such. This should improve hygienic conditions and also conserve drinking water presently used for sanitation.

(i) Disposal of Garbage

For the quick disposal of garbage, the department with the help of the state government, has purchased two dumper placers with 30 trolleys. Dumper placers are light vehicles which pick up efficiently garbage even from congested areas. Besides, these trolleys are covered and they do not
create nuisance at their placing point and during their carriage through the city. The vehicle is fitted with a hydraulic system and saves labour costs collection and disposal. This technique has greatly improved garbage disposal.

(ii) Garbage Disposal Sites

There is no permanent garbage dumping site with the corporation. The department of health and sanitation have been dumping garbage near Totu. An incinerator was constructed here but was washed away during the rainy season. Subsequently, the locality's residents filed a writ in the court and thus the use of dumping sites was discontinued. Presently the city's garbage is dumped temporarily in a nullah near Tarni-Ka-Bagicha. A permanent dumping site is still under consideration, for which purpose the government has constituted a high level committee for selection and development. The existing proposal is to dump the garbage in a 'V' shaped nullah distant from the inhabited areas. To this end, construction and development of checkdams is envisaged.

This practice is likely to continue for a few years, after which the same nullah will be converted into a ground for parking. Accordingly, a garbage site will then be chosen and developed. This will not only avoid nuisance but will also save the pollution of drinking water which is
existing problem as the garbage passes through the water sources at lower heights the same water is used for drinking purposes. Besides, this will save the environmental pollution.

(iii) Garbage Dumping Pits

There are a number of places in the city, where the garbage removal vehicles cannot ply. Therefore, at such places garbage dumping pits are dug. The dumped garbage is used as manure. Such pits are covered with earth for quick decomposition and thus avoiding pollution.

(iv) Dust Bins

The department's responsibility is to provide dustbins in different parts of the city. Currently the department has fixed dustbins measuring 3x3x3 metres. However, their large size prevents their being placed in congested areas. So a proposal has been made to purchase smaller dustbins measuring 1.5x1.5x1.5x1.5 metres. If approved, the department will purchase many to effect and maintain proper sanitation.

(v) Cleaning of Nullahs and Drains

Nullahs and drains are cleaned by the safai karamcharies numbering about thirty. They are entrusted with the job of cleaning the
city's main nullahs under the supervision of Male Health Supervisor. They are employed on a daily wage basis under the Nehru Rojgar Yojna. Though this system has shown positive results, the lack of civic consciousness engenders continual blockage of the cleaned nullahs with debris, earth, filth, etc.

(VI) Carrying of Night Soil

In the existing sewerage scheme, large areas, particularly the outskirts, lacked regular sewerage facilities. These areas had only the provision of dry latrines. The excreta used to be manually carried and disposed off into depots located at various places in the town.

The central government has initiated a drive to eliminate the practice of carrying night soil manually. With financial assistance from the government, more than 90% of dry latrines have been converted into flush latrines by making waste disposal into soakage pits. The remaining 10% of work is still in progress. This system not only decreases the abhorrent practice also but relieves safai karamcharies of the indignity of carrying night soil on their heads since the distant past. Efforts have been made by the department to lay the sewer lines all over the city. It is planned to later convert the soakage pits into proper septic tanks.
Similarly the sewerage system of Shimla town is already over burdened with the increased population, thus resulting in repeated failure of the system. The exception is the Chotta Shimla area where there is surplus due to Ashwani Khud pumping station. Moreover being a VIP area, it is provided with adequate water supply. This source needs to be linked with main distribution system and the Irrigation and Public Health Department has prepared an estimate of Rs. 73 Lakh to carry this water from Mansfield to Gorton Castle - the point of linkage. Another sub-estimate of Rs. 1.55 crores has been prepared for improving/strengthening the water distribution system in Shimla town. If these funds are made available, then the water leakage in the present distribution system can be curbed and hopefully can be prevented and also the Ashwani Khud water can be joined with main distribution system.

The existing sewerage system in Shimla was laid in year 1880 for a population of sixteen thousand persons and it is now far in adequate to meet the present population needs. Sewerage is being carried through C.I.pipes. The existing system serves central Shimla, Chotta Shimla, Brockhurst, Khalini, Nabha, Phagli, Tuti Kandi, Chakkar, Boileauganj, Summer Hill, Annadale, Kaithu, Bharari, Sanjauli, etc. Due to hilly terrain and scattered population the sewerage has been carried to 5 points - Lalpani, Kasumpati, Summer-
hill, Jutogh, North Disposal. Certain sewerage lines were laid in the recent past. Their total length is 4460 mts. with 100 mm diameter and 694 mts. with 150 mm diameter respectively. Number of sewerage treatment plants and the sewerage load carried in a day is shown in table 6.8.

Table 6.7
Number of Sewerage Treatment Plants (STP) and Sewerage Load carried in million litres a day (mld), MCS.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of STP</th>
<th>Sewerage Load mld.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sanjauli</td>
<td>2.10</td>
</tr>
<tr>
<td>2.</td>
<td>Dhalli</td>
<td>1.59</td>
</tr>
<tr>
<td>3.</td>
<td>Malyana</td>
<td>0.87</td>
</tr>
<tr>
<td>4.</td>
<td>Lalpani</td>
<td>21.87</td>
</tr>
<tr>
<td>5.</td>
<td>Snowdon</td>
<td>4.26</td>
</tr>
<tr>
<td>6.</td>
<td>North Disposal</td>
<td>7.23</td>
</tr>
<tr>
<td>7.</td>
<td>Summer Hill</td>
<td>2.47</td>
</tr>
<tr>
<td>8.</td>
<td>Rahai</td>
<td>1.22</td>
</tr>
<tr>
<td>9.</td>
<td>Jutogh</td>
<td>1.22</td>
</tr>
<tr>
<td>10.</td>
<td>Badheri</td>
<td>2.15</td>
</tr>
<tr>
<td>11.</td>
<td>Shoghi</td>
<td>1.64</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>46.33</strong></td>
</tr>
</tbody>
</table>

Source: IPH Department, Shimla, H.P.
"Urban India, especially small and medium town, is fast heading towards sanitation crises." One out of every three persons in the world goes without clean drinking water of adequate sanitation facilities. One-third of Indian urban households, numbering more than 40 million, lack access to latrines of any kind. Small and medium-sized towns are the most neglected, generally lacking sewerage systems. Drains choked with sewerage are a common sight. While provision of water supply has just about kept pace with population growth, provisions of sewerage facilities has lagged far behind. While 2300 out of 3300 towns now have piped water supply, only 217 have sewerage and even in these towns, sewerage is partial as not more than 10-50% of the population is covered. About 25 percent of the country's target population does not even have space for construction of latrines.

An analysis of civic amenities shows that there is a definite variation in the level and standard of basic civic services and

---

life's amenities in Delhi and Shimla. The purpose here is not to provide an exhaustive inventory of these services and amenities, but to pick on the most salient differences.

Of foremost importance is the need to address the minimum provision of drainage and water supply—the infrastructure of urban sanitation and conservancy. The sewerage and drainage system, both in Delhi and Shimla, is utterly obsolete and inadequate, especially in old Delhi. However, there has been great improvement in New Delhi as it falls under the jurisdiction of NDMC. The drainage system in Shimla is even worse. In Shimla it is so poorly maintained that roads and streets get flooded with water and refuse during the rainy season. The situation is the same in Delhi with the additional problem of the breakdown of transport system. This causes great hardship to the general public. The skeleton system of drainages leaves the sullage to stagnate abruptly forming pools in low lying areas. In Shimla, rain water over flows the drains due to refuse blockage particularly polythene bags. Polythene bag pollution is also a menace in Shimla. Lack of civic consciousness is a major part of the problem. Both corporations urgently need to improve sanitary conditions and the sewerage system. A law prohibiting the throwing of waste in public places needs to be enacted. The corporations should provide dustbins at
every 100 metres. Though both corporations have provided dustbins, the numbers and locations are inadequate. In Delhi vagrants and petty thieves steal and sell dustbins. In Shimla, though the dry latrines have been converted into flush laterines the condition is still dismal due to the shortage and inefficient working of sweepers. Public toilets are neither washed properly nor daily and thus stink. As a result the general public avoids these toilets, fearing infection. The number of public are often located at places not easily visible. This adds to the already great problem. The corporations seems largely unconcerned with cleanliness and hygiene. Moreover, the staff is extremely reluctant to work. So the toilets are generally filthy.

"The density of population has serious implications for organization of health services. It has been indicated that population is unevenly distributed in the city of Delhi. Some of the areas are more thickly populated than others. These areas show a higher incidence of disease and at the same time lack medical facilities. Thus the area of the city which needs relatively more facilities has the least of them. Not only are the facilities wanting in these areas but the available resources and space impose serious constraints on creating more facilities. For instance, here it is not possible to provide garbage sites or set up dispensaries. Besides the deployment of sanitary staff is also unrelated to the needs different areas.
The situation in respect of essential services like water supply and sewerage is dismal. The master plan (1956) states "of the 20 lakhs of urban inhabitants, over 3 lakhs do not get protected water supply, about 4 lakhs of people living in new colonies have only intermittent water supply, and in many slum areas water scarcity is rather chronic". The sewerage system originally designed about three decades ago, for the then population of 65 lakh is today meeting the needs of five times that number. The sewerage system serves only few parts of old Delhi and New Delhi with extensions to the south and the west. In old Delhi, in the walled city of Shahjahanabad, perhaps not more than 20 percent of dwellings are connected to the sewerage system. Presently the situation, though improved, still leaves a serious hang over.

Provisions of medical aid as a local function is undertaken by the state government of Himachal Pradesh in so far its curative aspect. But the case in Delhi is different. Delhi Municipal Corporation performs a vast variety of functions in respect of medical services.

The water resources of a

nation are an invaluable asset to be preserved and maintained. They must be kept pollution free, consistent with the best interest of the public. This encompasses municipal use, industry, agriculture, water power, recreation etc. all of which demand that neither water nor solids be contaminated. In developed and developing countries, the growth of urban areas has been so rapid that water supply provision and sewerage facilities has lagged behind. Urban water supplies should be continuous. They should meet minimal WHO standards (for drinking water). Metropolitan governments have the responsibility to maintain the highest possible water quality.

A WHO publication on the results of a study on the urban water supply of 75 developing countries, states that only about one third of urban residents are presently supplied with piped water in their homes or courtyards. Another third has reasonable access to piped water. The remaining third are forced to obtain their water from unsuitable and insanitary sources: open shallow wells, streams, etc.

A safe piped water supply is an essential factor in the economic social, and cultural development of a community.


Although Delhi is situated on the banks of Yamuna river, flow is inadequate to run treatment plants at Wazirabad and Chandrawal. The entire water of the river upstream at Tejawala is diverted by Haryana and U.P. for irrigation purposes. As such, the water available to Delhi at the Wazirabad intake point is only a regenerated flow in the river. Since this flow is inadequate to meet residents needs, raw water from the Bhakra Reservoir is used to keep the Wazirabad and Chandrawal plants running. Delhi has been given a very less share of 0.2 MP water from the surplus of Ravi-Beas rivers. Delhi's dependence on neighbouring states for running its water supply is thus obvious. It may also be mentioned that ground water in Delhi, leaving aside Shahdra, parts of South Delhi and a few other places, is brackish, and as such unfit for human consumption. The yield from tubewells, where water is potable, is poor . The DWSand SDU has not lagged behind in meeting the increased demand of the rising population as illustrated in table 6.7.

By 2001 the population of Delhi is expected to be around 128.00 lakh and the requirement of untreated water for this population is estimated to be 1150MGD. The existing resources have to

Table 6.8
Consumption of Water, MCD.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Metered Connections</td>
<td>355157</td>
<td>547000</td>
<td>580000</td>
<td>625000</td>
<td>637924</td>
<td>678461</td>
<td>700923</td>
</tr>
<tr>
<td>No. of Unmetered Connections</td>
<td>13143</td>
<td>26000</td>
<td>3000</td>
<td>126000</td>
<td>206850</td>
<td>226960</td>
<td>245451</td>
</tr>
<tr>
<td>Water Consumption (in Lakh K. liters)</td>
<td>1953</td>
<td>3401</td>
<td>-</td>
<td>-</td>
<td>4057</td>
<td>4540</td>
<td>4456</td>
</tr>
<tr>
<td>(a) Domestic</td>
<td>1542</td>
<td>2918</td>
<td>-</td>
<td>-</td>
<td>3534</td>
<td>4013</td>
<td>4049</td>
</tr>
<tr>
<td>(b) Commercial/Indust.</td>
<td>411</td>
<td>483</td>
<td>-</td>
<td>-</td>
<td>523</td>
<td>527</td>
<td>407</td>
</tr>
<tr>
<td>Per Capita Consumpt. (k.litre)</td>
<td>33</td>
<td>42.86</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>149</td>
<td></td>
</tr>
</tbody>
</table>

Source: Delhi Statistical Hand Book, 1992

be expanded and augmented for the growing demand. Once the sources of water supply are identified, both short and long-term development could be properly planned. The undertaking (DWS and SDU) is proud of the fact that the urban population of Delhi is receiving drinking water supply of 42.86 gallons per day per person. In comparison, in 1990, the Calcutta figure was 30 gallons; Bombay, 29 gallons; and Madras, 17 gallons.  

Water Supply in Rural Areas

The decade of 1981-1990 has been declared as "The Sanitation and Supply of Drinking Water Decade" by the World Health Organisation. There has thus been a realization by government that the focus of any developmental effort is the village, and it was in this context that the undertaking made a major breakthrough by supplying drinking water to all 219 villages falling within Delhi’s jurisdiction. Delhi is the only state providing drinking water facilities to all villages under its jurisdiction. 31

The phenomenal increase in the rural population made the demand for additional water supply imminent. With the political focus on weaker sections of society, no development charges were levied on the villagers for this provision.

As already stated Shimla water supply was originally executed in the year 1875 by bringing water through gravity mains in the Dhalli catchment area. This was periodically augmented. Since the installation are very old, the efficiency of pumping machinery has decreased presently, water is received from Gumma, Churat, Chair, Jagroti and Ashwani Khud pumping stations. This water is insufficient for

Shimla. The corporation is also providing water to adjoining areas out of the municipal limits. These are Naldhera, Kufri, Dhalli, Kasumpati, Totu etc. The distribution system of town is more than 100 years old and requires to be replaced and strengthened.

The present damaged sanitary system has given rise to extremely in sanitary conditions, which play havoc with the environment. In adequate waste disposal measures and burgeoning health care costs due to disease are a drain on community's economic resources. Chart 6.d shows the total number of zones for sewerage treatment. Though drinking water supply scheme are in existence in all the towns of Himachal Pradesh, these are quite obsolete and inadequate to cope with the present need. Keeping in view urgency of augmentation of water supply schemes in the town, Rs. 9.20 crores has been provided under the urban supply scheme expected to be utilized fully by the end of the year. During 1993-94 a provision of Rs.5.30 crores was made for sewerage and sanitation schemes.

Since the inception of national five year plans, some plan funds have filtered down to municipal bodies via the state government. Thus allocation of central plan funds for urban water supply and drainage and sewerage dates back to the later

-----------------------------
part of the first five Year plan. Since then public health engineers have been fervently pleading for a special agency for water supply and sanitation on the ground that the municipal authorities are inefficient, politics-ridden, area bound and generally unable to manage the services in sound commercial lines and thereby tap adequate financial resources. Following the enactment of the Bangalore Water Supply and Sewerage Act, 1964, the Bangalore water supply and sewerage board was created to undertake water supply and sanitation functions in and around the city of Bangalore. A similar agency subsequently established was the Calcutta Metropolitan Water and Sanitation Authority.

More such agencies are proposed to be setup. In U.P., the state level water board has been planned, Tamil Nadu has also established a state level board for water supply and sewerage. The Bombay Municipal Corporation has introduced a number of programmes to improve services. A major effort to increase the volume of water supply and improve access to sewerage began in 1973. Bombay water supply problem


requires metropolitan planning. At the micro or unit level, however, it is "a large rural water supply scheme." Comprising two varied parts, it is simultaneously a huge, undefined, shapeless village without any amenities and also a most modern metropolis with ultra modern facilities. The Bombay water supply scheme cannot be understood nor could have been envisaged without consideration of the city's duality. Going by averages, the per capita consumption of water in Bombay has fallen from a peak of 80 gallons a day in 1935 to 43 GPD in 1980. But these averages hide some facts. For instance, in the richer areas of the city, the per capita consumption has not decreased. Rural Bombay has overwhelmed urban Bombay destroying the planning and execution of the system.

In Madras, the supply is mainly met from Poondi, Cholvaram and Mid Hill reservoirs, these having combined storage capacity of 6483 MCFT. The water supply system is maintained and monitored by the Madras Metropolitan Water Supply and Sewerage Board set up on August 1, 1978, separating the work under the control of the Corporation of Madras. Thus in 1978 the quantity of water supply to the city was 217.92 mld. through the surface sources. Despite

37. Ibid., p. 295.
substantial investments in the past years and expanded coverage, the board could meet only partially the demand of the people. There is still a looming gap between demand and supply. As in Shimla and Delhi, the city of Madras also has the same problem - an obsolete distribution network and sewerage system. At many points pipes have corroded and jammed, resulting in crosslinking between sewerage and potable water sources. In many parts of the city, heavy bacterial pollution has been reported in tapping points.

The master plan for water supply for the Calcutta Metropolitan District aims at eventual provision of uninterrupted and adequate quantities of potable water to meet all seasonal domestic requirements. The entire project scheduled for a period extending to year 2001, has been divided into three phases - interim, intermediate and ultimate on the basis of the master plan for water supply, sewerage and drainage as prepared by the Calcutta Metropolitan Planning Organisation with assistance of W.H.O. and U.N. Development Programme. Despite the slowdown in economic development and urbanization during the past twenty years, the city has been unable to provide enough basic services to meet the population needs. The supply

of potable water has been grossly inadequate and piped water is available only in Calcutta city and parts of a few other municipalities. Sewerage is limited to only a small area in the urban core. Poor maintenance of existing drainage facilities and periodic clogging of the system have made flooding an annual feature. The provision of Primary Schools is available for only two-thirds of the children and health services have remained scanty and fragmented. People in slum areas and refugee settlements lack potable water, endure serious annual flooding, and have no systematic means of disposing of refuse or human waste. "Although the treated water supply has tripled (from 450 million litres a day ten years ago to more than 1,356 million litres a day), serious disparities persist between the core city and other parts of the metropolitan area. New sewerage treatment plants, sewerage networks, and large scale conversion of service privies into sanitary latrines have contributed to better sanitation, but refuse collection and disposal have been poor despite the infusion of funds and equipment".

Developed and Underdeveloped Countries - A Comparison

Under the London Government Act, 1963, local government in Great London consists of two tiers each directly elected and multifunctional, i.e., Greater London Council (GCL) and London Boroughs. All the personnel health and welfare services have been assigned to the boroughs, the GCL having only the charge of the ambulance service. Refuse collection and disposal are shared by both tiers. With respect to sewerage administration, the GCL looks after main sewers and sewage disposal, and the boroughs are responsible for other sewers. Water supply is not a local government function in Greater London, this being responsibility of the Metropolitan Water Board, made up of representatives of the GCL, boroughs and members of adjoining organizations.

In France, purely local functions such as water supply, sewage disposal, refuse collection and the like are undertaken by Communes (the basic municipal unit in France) individually or in groups called Syndicates.

Tokyo has a two-tier system of government for metropolitan region. Four prefectures, including Tokyo Metropolis, form upper tier and Special Wards (local authorities). Water works, sewerage, and collection and disposal of refuse is looked after by the Tokyo metropolis. Public Health
Services, social welfare functions, in addition to schools, are looked after by special wards/local authorities.

Compared to the developed world, the condition of urban water supply in developing countries is generally poor. Many urban areas lack a safe and adequate water supply. The Indian Planning Commission points out that while towns with nearly 84 percent of urban population have been provided drinking water, the total population coverage is partial and uneven. In the past, the bulk of urban water supply plan investments went to larger cities, and the smaller towns have, in consequence, continued to suffer. Many households have to depend on public taps. Long queues are common sight. The situation is no better in many other developing countries. Various studies show that, in Jakarta, only 8 percent of houses were supplied with both electricity and water in 1968 and 76 percent had neither facility. In Cape Coast Ghana 73 percent of houses lacked water. In Brazil in 1970, 47 percent of houses lacked running water and in Greater Sao Paulo, 41 percent. Even while the cities suffer from water scarcity, water wastage in many cases is intolerably

---


high. For example, in Calcutta the wastage is as high as 30 per cent. One of the tragic aspects of municipal water supply in developing countries is that sometimes the water supplied is contaminated thus causing epidemics. It has been estimated that out of every four hospital beds in developing countries in the world is occupied by persons suffering from diseases caused by the contaminated water. A comparative study of the water supply in ten major Indian cities was made in 1986 and it indicated that cities like Kanpur, Hyderabad, Lucknow and Calcutta have a per capita supply of water varying from 30-40 gallons per head per day; Bombay, 48 gallons per head per day (due to sources from four clean water lakes - Tansa, Vaitarna, Vehar and Tulsi, situated at distance varying from 20-70 miles from the city); Calcutta, 32 gallons per capita (even though it has a huge source from the river Hoogly); Bangalore, 15 gallons per capita. In all Indian cities domestic requirements form the major part of the total water supply. The consumption of water in industries is the highest in descending order in the following cities: Bombay, Delhi, Calcutta, and Kanpur.

42. Francis Cherunilum, Urbanization in Developing Countries, Himalaya Publishing House, Bombay, 1984, p. 135.

Generally speaking, elementary education is one of the obligatory functions of local bodies in India. Article 45 of the Indian Constitution provides that the state shall endeavour to provide within a period of ten years from the commencement of the constitution for free and compulsory education for all children until they complete the age of 14 years. The Educational Commissioner, Government of India, 1937, observed, "It is obvious that administration by local bodies of primary education has entirely failed. Education is rendered entirely unproductive". By and large municipal bodies have not developed adequate civic responsibility in the field of education. These factors have led the Punjab, Assam, Madhya Pradesh governments to divest municipal bodies of their responsibilities in this field. In Punjab, all municipal schools have been provincialised. It is beyond the resources of municipal bodies to manage post primary education. As for primary education, the U.K. model of Education Act of 1944 should be adopted to enable local bodies to become instruments of national policy under the direction and control of the governments, with the provision for compulsory levy of education cess or tax at an adequate
level as in West Bengal, Madras, Bihar etc.

Education is centralized in France and was also so in the former U.S.S.R. It is local in Belgium, Holland and Denmark, whereas in the United Kingdom, education, other than university education, is the function of the local authority. In U.S.A., in school boards members are elected for administration of elementary education. There are several municipal colleges and universities as well. New Zealand's system of education is decentralized in appearance but centralized in effect.

In a study conducted by Vijay Laxmi Pandit, old delhi respondents were of the view that there was a distinct qualitative difference in the external conditions of the schools in various parts of the city, schools in the walled city being located in congested areas without open space for recreation. Some of the schools were situated in utter insanitary conditions while others were in commercial areas. Both factors prevented from concentrating on their studies. Many of the respondents blamed large scale expansion of schools and poor quality of teachers for creating confusion about goals of education.


45. Idem.

In India the local bodies were assigned a role in education quite early in the history of modern education. This was due to two reasons: one, the influence of England, where the tradition of local control in education was and still is strong (partly due to a general opposition to the concept of state intervention in education and partly due to the idea that education is a joint responsibility of local community and the nation). Thus it was natural that partnership of local bodies in the administration of education should influence educational policies in India, and that the local bodies should be entrusted with a share in administration of education. The second reason was political related to India's struggle for political freedom. Today, a stage has been reached when it seems necessary to entrust the entire general administration of districts to local bodies. Thereby the administration of education, especially primary education, would be more costly and effectively associated with local bodies at different levels. But they have not attained the present position of strength and great significance without passing through anxious periods which almost threatened them with a large scale curtailment of their power in education.

The role of local bodies in administration of primary education varies from country to country, the cause for the variation being sociological, historical or political. In India, various states and union territories have varying systems of education. During its early period the system of education was democratic in Assam (municipalities and local boards enjoyed full freedom). As democracy in education did not function well, the administration of education was brought under the direct control of state government by passing the Primary and Basic Education Acts of 1948 and 1954. In Bihar, besides the schools maintained or aided by local bodies, the government maintains its basic schools. In Jammu and Kashmir, there are no municipal board schools, town area committee schools, district board schools, etc. Kerala has two statutory bodies, directing education in the state, the state education advisory board and local education authorities, formed on the basis of a


directive of Article 40 of the constitution of India. In Madras, the majority of primary schools are under local bodies. In managing and controlling primary education, a great diversity exists in the entire state of Orissa. This is due to inheritance of different systems of local administration from the past. Different local authorities are entrusted with organizing and maintaining an efficient system of vernacular education in the areas under their control. But because of the unsatisfactory local government, the government took over management of a large number of high schools. Education at the primary and middle stages was a mixed responsibility of the Delhi government, the district boards, and the municipal committees till 1958 when the Delhi Municipal Corporation was formed. But today it is an obligatory function of local bodies and is no longer a mixed responsibility.

1. The role of Local Authorities

There are two historical traditions influencing the role of local authorities.

52. Shri S. Natrajan, "Administration of Education in Madras" in above cited p. 423.
54. S. N. Mukerji, Administration of Education in India, above cited., p. 385.
authorities—one, of associating the local authorities with education which developed in British Indian Provinces; two, of not associating them with the same which developed in the erst while Indian princely states. Their financial contribution to the support of education is not large, but is not negligible either; it is substantial in the case of richer municipalities like Bombay city.

In the Post-Independence period, two attempts were made to redefine the role of local authorities in education and to evolve a uniform national policy. (Unfortunately, these efforts have not succeeded, partly because the two committee which examined the problem made somewhat conflicting recommendations. The Kher Committee rejected the British Indian view that creation of local authorities and their association with primary education was necessary as a training ground for democratic self-government. It was emphatically of the opinion that education should not be made a guinea pig on the altar of democracy or decentralization and recommended that interest of mass education should be the only criterion to decide whether the authority over primary education should be delegated to local authorities, and if so to what extent. Before

the recommendations of the Kher Committee could be implemented or even adopted, a different set of recommendations on the same subject was made by another committee: the COOP team on community development, set up under the chairmanship of the late Shri Balwant Rai Mehta to review the community development programme and its future organization. It was of the view that local interest and local initiative in the field of development would not be adequately involved, unless a single, representative and vigorous democratic institution was created at the appropriate level to take charge of all aspects of development work in rural areas and invested with adequate powers and appropriate finance.

It is necessary to remember that it is not enough to decentralize the administration of education and to vest it in the local authority. The programme will not succeed unless intensive steps are taken to educate local leadership on the right lines, to provide the local authority with trained and competent officers with independence in the performance of their duties and to make the necessary resources available to the local authority to fulfil the responsibilities placed upon it.

57. Ibid., p. 413.
Under the Delhi Municipal Corporation Act, 1957, primary education is an obligatory function of Delhi Municipal Corporation. Initially till June 1970, the corporation had charge over 400 middle schools and 11 higher secondary schools. Subsequently, on 1st July, 1970, the Delhi administration took over the middle schools and higher secondary schools from the corporation. Since then the corporation has just been running primary schools. Presently, the Delhi is running more than 1656 schools and 769 nursery classes with more than 7.5 lakh children on its rolls. Apart from running its own primary schools, Delhi Municipal Corporation also recognizes primary schools run by voluntary agencies situated within the limits of Delhi Municipal Corporation.

2. Administration of the Education Department of Delhi Municipal Corporation

The Department undertakes to impart primary education to the children aged 5-11 Years. Not only is the primary education imparted, but pre-primary classes are also arranged for the children aged 3-5 years. Analysis of data reveals that MCD spends maximum on education. Percentage of expenditure incurred on education during last nine years has come out to be 28 percent of the total expenditure and it was Rs. 9772.85 lakh during 1992-93.
For administrative control and supervision of schools, the department functions through twelve zonal officers, each under the charge of an assistant education officer/senior school inspector. Similarly, at headquarters, the department functions through its various branches. These branches perform the following activities:

1. Physical Education

For improvement in science teaching, the department organizes inservice training programmes for sciences teachers, conducts science fairs and exhibitions. A science museum has been set up at the Municipal Child Resource Centre, Sector VI, R.K. Puram, New Delhi.

2. New Schools

To cope with the increasing number of students the department has opened new schools, mostly in J.J. cluster, unauthorised colonies.

Besides this, the department makes various appointment and promotions of primary school teachers in consultation with the staff selection commission, which prepares the panel of teachers by conducting written tests and interviews.

---


379
3. Welfare Schemes

(1) Free Textbooks

The department supplies text books free of cost to all children studying in municipal primary Schools.

(2) Free Uniforms

Children of scheduled caste, class-IV employees and other weaker sections are provided free uniforms.

(3) Mid-Day Meals

A provision exist to provide mid-day meals to primary and nursery children. Under this a majority of scheduled caste children and those of class IV are covered.

(4) Medical Facilities

There are twelve units of the schools health scheme, one in each zone. Doctors/Staff nurses pay periodical visits to schools for medical check-up of students. They examine and treat disease, eye ailments and other health problems. If required the patients are taken to school health centres for extensive examination and treatment. Free medicine, spectacles and other amenities are provided to these children.

(5) Scholarships

For qualitative improvement and to inculcate healthy competitive spirit
among children, the department conducts a merit scholarship examination and scholarships are awarded to meritorious students. In addition, Delhi administration also provides a stipend to the children of scheduled castes and economically backward classes. This includes talent scholarship examinations and science talent scholarships.

(6) Libraries

To develop reading habits, the department purchases library books and related equipment. In addition to school libraries, there are zonal libraries, one in each zone and one central library at the headquarters.

(7) Training Programmes

The department organize in-service training programmes for teachers to acquaint them with latest training techniques and new methods of imparting education and training is provided at an inservice training institute located at Shakti Nagar. The district institutes of educational training are also being utilised for in-service training purposes.

4. Universalization of Primary Education

The aim of the education department is to bring every child in the age group of 5-11 Years to the schools. The corporation, therefore has opened primary schools at convenient location to
enable every eligible child to seek admission by walking. Every year a house to house survey is carried out to find out the number and the names of children of the school-going age group for admission in nearby schools. In this important programme, cooperation of the public and parent-teachers associations is sought.

The National Policy on Education of 1986 envisages an unqualified priority to universalization of elementary education. The thrust in elementary education is, therefore, on (1) Universal enrollment and universal retention of children till 14 years of age; and (11) substantial improvement in quality of education.

One of the important distinguishing features of the department is the existence of the physical health and education branch. Almost all children are encouraged to participate in games, sports and cultural activities, dance, music and physical education, occupy a unique place in the curriculum of Delhi Municipal Corporation's primary schools. Every child has to participate in all India sports meet where they often win prizes. Special coaching classes are also held for talented children.

There is a regular programme of taking children on excursion and educational tours in Delhi and other states. The corporation undertakes various useful projects with the
AghaKhan Foundation.

The education department of Delhi Municipal Corporation is striving hard to improve the standard of primary education quantitatively as well as qualitatively for all round development of young children. Though the above discussed functions are those which the education department of Delhi Municipal Corporation is required to perform, in reality the condition is quite different. The problem of uniform education and better physical amenities for the children has been agitating the people of Delhi. This and the other reason mentioned previously are the real factor of the ground reality.

6.12. ADMINISTRATION OF ROADS AND BUILDINGS DEPARTMENT OF SHIMLA MUNICIPAL CORPORATION - AN INDIVIDUAL STUDY OF MCS

The roads and buildings department looks after the construction, repair and widening of roads as well as the repair of the buildings-rain shelters, labour hotels, parks, slaughter houses and incinerators in Shimla. At present this department is responsible for maintenance of 133 Kms. of roads, 70 Kms of nullahs, 200 Kms. of drains, various


383
lanes and alleys in Shimla. There are about 112.59 kms of tarred roads and about 20.58 kms of Kutcha roads. It also looks after the public streets and paths in different localities of Shimla. In addition roads and buildings department is entrusted with the work of private building construction, its planning inspection, assessment, etc. The department maintains about 500 municipal buildings. It has also been engaged in conducting surveys for new roads, nullahs. Further, the department is also responsible for executing the works of improvement of the slum areas in the city under 20 point programme. The department is engaged in construction of various commercial complexes, rest houses, shops and stalls, etc. in order to earn revenue for corporation and to provide civic amenities to the public.

The department is responsible for day to day maintenance and repair of roads, buildings, nullahs, drains. New construction and improvement Works are carried out by the department directly and through contractual agencies. A brief description of each activity of the department is as follows:

1. Widening and Improvement of Narrow Lanes/Roads

The roads and buildings department of the Shimla Municipal Corporation is responsible for maintenance, improvement and widening of the existing narrow roads. It also widens narrow curves of different roads so as to make them jeepable.

2. Improvement/Repair of Roads by Providing Premix Carpet

The roads and buildings department is responsible for macadmization and repairing of main roads at various places by providing premix carpet.

3. Restoration of Roads after Laying Cables/Pipelines by Various Departments

The various roads in different localities are dug by Post and Telegraph Department, HPSEB and the Water Works Department for laying of cable and pipelines. It is the responsibility of the roads and buildings department to restore these roads by providing premix carpeting.
4. Nullahs and Drains

The roads and buildings department is responsible for repairs and reconstruction of various nullahs in deplorable condition and those destroyed by landslides etc.

5. Reconstruction of Steps/Stairs in Different Alleys

The department is responsible for construction and repair of stairs or steps in different alleys in the different vicinities of Shimla.

6. Side Protection

Those areas where the roads are quite narrow and the curves are sharp, the corporation provides protective railings to prevent falls and accidents.

7. Retaining walls

Wherever required, the department constructs retaining walls and breast walls.

8. Parks

Though in reality Shimla Lacks parks including entertainment parks, the corporation is taking steps to construct parks for children.

Another function of the corporation is to construct rain shelters at various places in the city. The department has constructed some
rain shelters and work on others is in progress.

10. Street Lights

The department repairs and replace various light points. With the assistance of the HPSEB, the roads and building department has been able to install mercury lamps at different places.

11. Snow Clearance

It is the responsibility of the municipal corporation to keep the roads clean for vehicular traffic and pedestrians throughout the snow season. Sometimes the assistance of the HPPWD is also taken for clearing roads after heavy falls.

12. Repair of Municipal Buildings and Processing of Building Plans Assessment and Surveys

All those damaged buildings within the jurisdiction of the corporation are repaired and white washed by the corporation itself. The department processes the building plans and no construction work is carried out until and unless it is approved by the corporation. It has the authority to demolish unauthorized or irregular construction. The department conducts surveys in order to ascertain the actual existence of rain shelters, nullahs, drains, railings etc.
13. Construction of Commercial Complexes, Rest Houses, Shops Stalls etc.

In order to increase its income, the corporation has undertaken various construction of commercial complexes. Some of the complexes have already been built like the Pt. Padam Dev Commercial Complex and the Middle Bazar Commercial Complex. Work on other complexes is in progress—the Burnt Market Complex at the subzi mandi, which has 5 storeys under proposal. The ground floor will have parking, the first two floors will have a shopping complex and the remainder will house offices.

The corporation has also taken up land near Bharari road to construct a municipal rest house for the public.

14. Parking Places

Due to the increasing population of the city and continuous influx of tourists, there is a great dearth of parking facilities in Shimla. Keeping this in view, the department had taken up construction of parking places. One of them is near Jodha Niwas, where parking facilities for 30 light vehicles already exist. The second is on the Tutikandi Phagli bypass where 50 vehicles can even now be easily parked.
15. Festival and Other Functions

The department extends its full co-operation to the district authority in connection with celebration of Republic day, Independence day, State hood day and other national functions. Besides the above, department also helps the district authority during visits of VIPs and other dignitaries.

The roads and buildings department at present maintains 133-176 of pacca roads. The department undertakes periodic repairs. Rs. 25 to 30 lakh is spent towards this out of municipal budgets and Rs. 10-15 lakhs by way of grant-in-aid from the state government. For the maintenance of roadside drains and nullahs the department spends Rs. 15-20 lakhs annually. Over the past few years the department has shown quite a lot of improvements and its work is in constant progress. The department is engaged in expansion of roads which are narrow. The department has been engaged in the beautification of the town and it would not be incorrect to say that it has been beautified to a large extent. Railings have been fixed on the roadsides wherever necessary. The following chart shows the length of roads maintained by roads and buildings department, Shimla Municipal Corporation.

Roads Maintained by R & B Department during 1992-93

<table>
<thead>
<tr>
<th>Type of Roads</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pucca Roads</td>
<td>133.176 km.</td>
</tr>
<tr>
<td>Kutcha Roads</td>
<td>20.5888 km.</td>
</tr>
</tbody>
</table>
Shimla municipal forests are situated within its municipal limits and occur on all sides in blocks. They are interspersed with government estates and private property and some villages on the outskirts. They are situated at 77°10' east latitude and 91°6' north longitude. The whole area is montaneous and the slopes are moderate to steep with the gradient varying from 25° to 45°. Earlier the total area of municipal forests was 1969 acres but now it has increased to 2081 acres as 112 acres were added by transfer of enclaves from Himachal Pradesh Government. At present, the area under municipal management comprises of 434 acres of reserve forests and 1647 acres of unclassed forests.

These forests mainly comprise Deodar (Cedrus Deodara), Chil (Pinus Roxburgii) and Ban Oak (Onerous Incana). However, other species like kail (Pinus Excelsa), Horse Chestnut (Aesculus Indica), Rohima (Pseud-Acacia), Bird Cherry (Prunus Padus), Acacia etc, are also found. On the basis of Official Records of Forest Department, Shimla Municipal Corporation.
trees the forests are divided into four major categories:

a) Doedar Forests
b) Chil Forests
c) Oak forests
d) Mixed Forests

The forests within the corporation's jurisdiction are located at mainly two places and are respectively called the Shimla municipal forests and catchment area forests. These forests actually belong to the state government, the municipal corporation enjoying usufruct only. In 1830, Shimla illaqa was taken over by British government from the state of Patiala and Keonthal. Since 1889-90 these forests have been scientifically managed and planned till 1985. But after this period no further plans were formulated and the working continues on the basis of the working plan of 1965-1985. Shimla municipal forests are well maintained and add to the aesthetic beauty of the town. The verdant belt of trees provide bracing climate.

The catchment forests situated below the Hindustan-Tibet Road from Dhalli to Kufri measure 2537 acres. Part of these forests once belonged to Rana of Koti and were taken over on lease in 1875. The Himachal Government now owns these forests. The catchment area forests have been scientifically
managed for more than half a century. These forests constitute a game sanctuary and have municipal water supply system. Different species of wild animals and birds are protected in these forests.

1. Staff and the Labour Supply

There is no dearth of ordinary labour required for usual forest operations, like sowing, planting, weeding etc. The conversion and carriage labour is, however scarce. Kashmiri labour is inabundant only a few are conversant with proper forest exploitation. At present, the staff of the divisional forest office of the corporation consists of: a tree officer of the rank of district forest officer/assistant conservator forest; a forest ranger (on deputation from the Himachal Forest Department) are looking after technical works; a district forest officer assisted by a superintendent who looks after the administrative work. There are 3 clerks, 1 assistant, 2 peons, 1 chowkidar, and 1 chowkidar-cum-cook. All constitute the office staff. The division also has a field staff consisting of a forest ranger, assisted by 4 deputy rangers, 14 forest guards, 5 malies, and 7 mazdoors.

Table 6.9
Organization of Forest Department, MCS.

District Forest Officer

<table>
<thead>
<tr>
<th>OFFICE STRENGTH</th>
<th>FIELD STRENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Superintendent = 1</td>
<td>Forest Ranger = 1</td>
</tr>
<tr>
<td>2. Clerk = 3</td>
<td>Deputy Ranger = 4</td>
</tr>
<tr>
<td>3. Assistant = 1</td>
<td>Forest Guards = 14</td>
</tr>
<tr>
<td>4. Peon = 2</td>
<td>Malies = 5</td>
</tr>
<tr>
<td>5. Chowkidar = 1</td>
<td>Mazdoor = 7</td>
</tr>
<tr>
<td>6. Ayah = 1</td>
<td></td>
</tr>
<tr>
<td>7. Chowkidar-cum-cook = 1</td>
<td></td>
</tr>
</tbody>
</table>

General Objectives of the Management

In view of the importance of forests in providing general amenities to a hill station and their value in increasing the beauty of Shimla, the objectives of the management are:

1. To improve and maintain forests in order to prevent erosion, check land slides, and enhance the beauty of the landscape.
2. To minimize the danger of fire in chil forest and adjoining habitations.
3. To increase the areas of more valuable species like deodar and to plan barren areas with suitable species.
4. Consistent with above, to produce a limited quantity of timber and firewood for local needs.
3. Working of the Divisional Forest Office

The main demand of the people in Shimla is firewood and timber. Earlier, Deodar, Kail and Chil were cut for the same by the municipal committee and transported for sale to the main sale depot at Cart Road. Occasionally the timber is also sold from other sub-depots. Chil timber is sold mainly to purchasers from the plains. The previous practice of felling to the trees and carriages and conversion thereof the timber and fuel wood has been changed. According to the existing policy of the government, all dead, uprooted and the broken trees are marked by the department for felling. After obtaining the due approval of the government these are handed over to the forest corporation for conversion into timber and fuel wood.

The main activities of the department consist of plantation work and every year new plantation is executed in a phased manner. In 1992-93 27,000 plants of different species were planted. In 1993-94, 10,000 plants were planted and intersection work is in progress.

With the help of the Economic Development Department, the new plantation in the Shimla city has been covered with iron tree guards numbering around 1310. This practice has enabled the department to save the new plantation from the savages of the monkeys.
and stray cattle, proving quite effective.

The department maintains nurseries in suitable parts of the city and the catchment area. These nurseries are used to grow new plants. Though this cannot completely fulfil the annual plantation requirements. A few important species are developed and the remaining requirement is met by purchasing the plants from the state government nurseries.

The Forest wing was revenue earning prior to central government instructions totally banning the feeling of trees. Even so, this department fetches quite a hands-on revenue by way of timber and fuel wood. This department has been organizing and executing tree plantation drives. If this practice continued, it will, effect excellent results in the future, thus making Shimla green again.

Conclusion

Delhi and Shimla Municipal Corporation’s performance is far from being satisfactory. With regard to water supply, there is inadequate provision of supply of adequate water. Shimla Municipal Corporation, besides having so many natural water resources at its disposal is unable to fulfill water needs of its residents. There is an unequal distribution of water in various localities, Posh areas getting the maximum of the water supply. More over, irregular distribution is another common phenomenon. Corroded and a century old water mains
have further worsened the position. More than 40% of water is lost through leakages in these trunk mains thus only half of the supply reaches its destination. The dwindling capacity of pumping station to lift water in Shimla further adds to the problem. In Delhi Municipal Corporation 10-20% of water gets lost due to leakages. As regards sanitation, the sewerage system is in much bad condition in Shimla like the water supply system sewerage system is also, a century old and in dilapidated condition. At places there is inter mixing of sewerage water. There is no proper underground drainage system. In Delhi, only 3/4 of the total population is covered under the sewerage system. Most of the unauthorized regularized colonies lack proper sewerage system. Garbage collection is ineffective and inefficient. Provision of medical aid- a local function is undertaken by the state government of Himachal Pradesh in so far its curative aspect but MCD performs a vast variety of functions in respect of the medical services. Although Delhi Municipal Corporation spends maximum over the education but the education provided to the children is not up to the standard. Most of the municipal schools are not in good condition. Standard of teaching has deteriorated. Shimla Municipal Corporation has no municipal schools or colleges under its charge which it used to have once upon a time, which are now under the charge of state government.

An individual study of roads and
buildings department, Shimla Municipal Corporation reveals that R & B department has been engaged in beautification of town and has beautified the Shimla city to a large extent. Most of the roads have been macadamized but the roads or alleys in the interior of town have not been so far received much attention of the municipal authorities. The kutcha roads cause inconvenience to general public. Similarly, forest department of Shimla Municipal Corporation has done quite a good deal of work in making Shimla more greener.

To conclude, the administrative problems are manifold and there are no easy solutions. Greater local autonomy would perhaps go a long way in properly addressing all the problems encountered. All in all, administrative and political will and measures are direly needed along with inculcation of civic conciousness. Living, breathing and responsive democracy can thus be created and its benefits reaped so let us all urgently attend to this task.