
**Report of the
Working Group on Urban Development
(excluding Urban Transport), Urban Water
Supply and Sanitation (including Low Cost
Sanitation, Sewerage & Solid Waste
Management) and Urban Environment for
Eleventh Five Year Plan (2007-2012)**

**Ministry of Urban Development
Government of India**

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URBAN DEVELOPMENT (EXCLUDING URBAN TRANSPORT)

1.1 URBANIZATION SCENARIO:

As per 2001 census, out of total 1.02 billion population of India, the urban population is about 285 million, which is 27.8% of the total population living in 5161 towns (Table-I). Of the 5161 urban agglomerations and other towns, 35 metropolitan cities consist about 37% of the total urban population. The remaining urban population is almost equally divided between the 388 large towns with population ranging from one lakh to ten lakh and 4738 other towns with population less than one lakh. The proportion of population in metropolitan cities, which was 19% in 1951, increased to 37% in 2001.

Table-I: Trend of urbanization in India

		YEAR 1951	YEAR 1991	YEAR 2001	YEAR 2021
1.	No. of Urban Agglomerations/Towns	2795	3768	5161	-
2.	Urban Population (Million)	62.44	217.61	285.35	433.0
3.	As percentage of total population	17.3%	25.71%	27.8%	32.3%

Table-II: Past trend of growth of metro cities in India

		YEAR 1981	YEAR 1991	YEAR 2001
1.	Number of metro cities (population-1 million +)	12	23	35
2.	Population (million)	42	70	108
3.	Percentage of urban population	26	32	37.8

The rate of urban growth in the country is very high as compared to developed countries, and the large cities are becoming larger mostly due to continuous migration of population to these cities.

Based on the population forecast made by Registrar General, Census Operations, Government of India, the urban population is expected to reach 433 million by 2021, while the total population may reach 1340 million. Thus, the level of urbanization in the country in the year 2021 is expected to be about 32%.

1.2 URBAN GROWTH:

Urbanization scenario in India has been widely analysed by urban scholars. During the 1991-2001 period, urban population in India increased from 217.6 million to 286.1 million, at an annual exponential growth rate of 2.71 per cent. The proportion of urban to total population has been growing, albeit at moderate rates compared to other developing countries.

Table III: Growth of Urban Population

<i>Year</i>	<i>Urban Population (million)</i>	<i>% of the total</i>
1961	78.9	18.0
1971	109.1	19.9
1981@	159.5	23.3
1991*	217.6	25.7
2001	286.1	27.8

Source: Registrar General of India

@ Includes estimated population of Assam

* Includes estimated population of Jammu and Kashmir

Table IV: Growth Rates of Urban Population

<i>Year</i>	<i>Decennial Growth %</i>	<i>Annual Exponential Growth %</i>
1961-71	38.3	3.24
1971-81	46.2	3.81
1981-99	36.4	3.09
1991-2001	31.5	2.71

Source: Registrar General of India

1.3 FEATURES OF URBANISATION:

- (i) Several states are at a low level of urbanisation, in that they have not attained even the 1951 national level of urbanisation. These are Assam, Bihar, Himachal Pradesh, and Orissa. Uttar Pradesh and Chattisgarh are still to cross the 1971 national level of urbanisation. (Table V)

Table V: Urban Deficit States, 2001 (Excluding North-East States)

<i>States</i>	<i>Level of Urbanisation</i>	
	<i>Less than national level of 1951)</i>	<i>(less than national level of 1971)</i>
Assam	12.9	
Bihar	10.5	
Himachal Pradesh	9.9	
Orissa	15.0	
Chattisgarh		20.1
Uttar Pradesh		20.8

Source: Registrar General of India

- (ii) Inter-state variation in the levels of urbanisation as shown in the urban growth rates is significant. While inter-state differences are historical, it is to be noted that the urban growth rates between 1991-2001 signal a better alignment with the GSDP growth.
- (iii) Cities with over 100,000 population (class I cities) now account for 68.9% of the total urban population. This proportion has been growing (as indeed it would on account of the size-class-jumping phenomenon). An important point is that the pace of rural settlements acquiring urban characteristics is slow, and when it is seen in combination with the reluctance on the part of states to notify rural settlements as towns even when they meet the Census criteria, one can begin to explain, at least in part, why urban population growth has been slow. The discretion with states to notify or denotify a settlement as urban is one area that needs to be deliberated upon in an appropriate forum.
- (iv) Growth of urban agglomerations and cities with over 1 million population is particularly noteworthy. During 1991-2001, 12 cities were added to this category, raising the share population of UAs and cities of +1 million population to 37.9% from 32.5% in 1991. This development is important and needs to be explicitly recognized. Thus far, it has been seen purely as a demographic phenomenon with no attention to governance structures of such areas, notwithstanding the nature of interdependence between the different constituents of the UAs. Absence of attention to these aspects is affecting their integrated development, as each constituent continues to push its agenda independently.

The Eleventh Five Year Plan will begin with an urban population base of 331 million persons. During the tenure of the Eleventh Plan, approximately 36.8 million persons are expected to be added to the urban areas. Effective absorption of approximate 7-8 million persons annually is the task that the Eleventh Plan needs to plan for, apart from the huge backlogs of shelter and services.

Table VI: Projected Urban Population, India

Year	Urban Population (million)	% to total
2006	323.8	29.0
2007	331.1	29.2
2012	367.9	30.4

Source: Office of the Registrar General and Census Commissioner, India, May 2006.

1.4 PROSPECTS OF URBANIZATION UNDER DIFFERENT GROWTH SCENARIO:

The Working Group had intended to work on the urban impacts of different growth scenarios. However, in the absence of required data from the Planning Commission, it has not been able to do it. The Working Group would like to point

out that a 9-10% growth rate (as is likely to be adopted for the Eleventh Plan) has different implications for the urban sector (including urban infrastructure investments) compared to 7% or 8%. At same stage, it will be necessary to undertake this exercise to realistically estimate the needed urban sector investments.

1.5 APPROACH TO URBAN DEVELOPMENT IN THE TENTH PLAN

The Tenth Five Year Plan has two Chapters on Urban Development, viz; (i) Urban Development, and (ii) Civic services in Urban Areas.

The Chapter on Urban Development gives the urban scenario as of 2001, pointing out that India's urban growth in the 1991-2001 was, at best, modest, and was characterised by large inter-state variations in the levels of urbanization. The Chapter brings out the problems relating to the fragmentation of responsibilities for service delivery at the level of cities; incomplete devolution of responsibilities and fiscal powers; and unwillingness on the part of states to give autonomy to ULBs. The Tenth Plan draws attention to the obsolete methods of property taxation and user charges. The Tenth Plan also indicates that the performance of three centrally-sponsored schemes namely, IDSMT, AUWSP, and Mega-cities has been mixed, and that parastatals have provided little support to the implementation of these schemes.

The Tenth Plan suggests that on account of under-assessment and inefficient methods of collection, the yield from property taxes is a fraction of the potential. In several cities, property taxes are not levied or that the rates of taxation are negligible. Another factor that explains fiscal imbalance at local levels is the non-application of the principle of cost recovery in the provision of services.

The Tenth Plan also points to the constraining influence of various land-related legislations on the availability of land and on other construction activities, and refers to lack of titles, rent controls etc. as key problems relating to urban land. The Tenth Plan underlines the need for a broad-based reform to overcome impediments to urban growth, and indicates that conformity to the reform agenda through the Urban Reforms Incentives Fund (URIF) will be made obligatory for central assistance during the Tenth Plan.

The Tenth Plan identified the following as the thrust areas:

- (i) Broad based urban sector reforms, focused on autonomy of ULBs, and debt-servicing capability of ULBs so that the ULBs could access the capital market funds;
- (ii) Rationalisation and improvement of the property tax system;
- (iii) Promotion of public-private partnership in urban sector activities;
- (iv) Studies to develop disaggregated picture of urban growth; and
- (v) Better maintenance and operations of municipal assets.

A formal assessment of the Tenth Plan approach and thrust areas has not been carried out. A key development in the initial year of the Tenth Plan was the mounting of the Urban Reforms Incentive Fund (URIF), which called upon the states to repeal the Urban Land (Ceilings and Regulation) Act, 1976, reform of rent

control Acts, strengthening of the property tax system, reduction of stamp duty, introduction of double entry accounting system, and revision of user charges to cover operations and maintenance costs. An allocation of Rs.500 crore was made under URIF for allocation to different states for implementing the reform agenda. Progress in terms of the states committing themselves to undertake these reforms or funds released to each state is not available with the Sub-group. URIF was later subsumed under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM).

1.6 APPRAISAL OF PROGRAMMES AND SCHEMES IN THE TENTH PLAN

There were three urban sector schemes, viz., the IDSMT, Mega-cities Scheme, and AUWSP during the Tenth Five Year Plan. The IDSMT and AUWSP have since been merged with UIDSSMT, while the Mega-cities scheme has been merged with the new initiative of JN NURM.

MEGA CITY SCHEME

Centrally Sponsored Scheme for Infrastructural Development in Mega Cities has been introduced with the objective of undertaking infrastructure development projects of city-wise/regional significance covering a wide range of components like water supply and sewerage, roads and bridges, city transport, solid waste management etc. The allocation of funds under this scheme has been on the rise since its inception in 1993-94..

Fund Released	
Plan Period	Central Share (Rs. in crore)
VIII Plan	289.80
IX Plan	424.95
X Plan (upto 31.10.06)	835.059
Total	1549.809

Planning Commission has earmarked Rs.1050.00 crore for the Scheme during the 10th Plan period. Out of which the anticipated expenditure is expected to be Rs.908.69 crore.

The Scheme has since been subsumed in the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) launched on 03.12.05. Funds are released for completion of only ongoing projects. All concerned nodal agencies/State Governments vide this Ministry's letter No.K-14011/30/05-UD-II dated 9th May, 2005 were requested to ensure completion of all ongoing projects under Infrastructure Development of Mega Cities scheme by the end of 31st March, 2006 due to launching of Jawaharlal Nehru National Urban Renewal Mission (JNNURM) on 3rd December, 2005. However, due to non-completion of all the ongoing projects during 2005-06, all concerned State Governments/ Nodal Agencies have been once again requested vide Ministry's letter No.K-14011/54/06-UD-II dated 16th May, 2006 that all necessary steps may be taken to ensure completion of all the ongoing projects as early as possible but not later than 31st March, 2007.

It has been decided to close the scheme by 31st March, 2007 by providing additional Central Share to meet out all the committed liabilities of on-going projects during financial year 2006-07. State Governments are required to provide the matching state share for the purpose. It has been communicated to the concerned State Governments.

INTGRETED DEVELOPMENT OF SMALL AND MEDIUM TOWNS SCHEME (IDSMT)

To improve the economic and physical infrastructure and to provide essential facilities and services in small and medium towns and also to show down the growth of large cities by developing small and medium towns through increased investments in these towns, the Centrally sponsored scheme of Integrated Development of Small & Medium Towns (IDSMT) was initiated in the year 1979-80. The scheme has been subsumed in the newly launched scheme of Urban Infrastructure Development for Small and Medium Towns (UIDSSMT) since 2005-06. New projects will be taken up under UIDSSMT. Ongoing projects taken up under IDSMT scheme during the last five years will continue to be funded as per the existing guidelines of IDSMT scheme till completion of these projects.

Evaluation of IDSMT carried out in 2002 showed the scheme suffering from (i) lack of capacity for implementation of the scheme; (ii) non-availability of matching grants from the state governments and (iii) non-availability of unencumbered lands for projects

The total release of central assistance amounts to Rs.962.95 crore for 1854 towns under IDSMT and Rs.25.090 crore under CUISS (Total Rs. 988.04 crore) till 30th June, 2006. The States have released Rs. 624.62 crore towards matching State share and institutional finance raised by the local bodies amounts to Rs. 117.46 crore. Against these releases, an expenditure of Rs.1278.02 crore has been reported by the States. Out of an approved 10th Plan outlay of Rs.1304.65 crore, the anticipated expenditure during 10th Plan is Rs.566.43 crore.

1.7 74TH CONSTITUTION AMENDMENT, 1992

74th Constitutional Amendment, 1992 is a landmark development in reshaping India's federal polity, by imparting Constitutional recognition to urban local bodies (ULBs) as the third tier of governance. The various reports and studies on the progress on the 74th Constitutional amendment suggest that the mandatory provisions contained in the Amendment have been implemented. These include representation of women and other disadvantaged groups in the ULBs, elections to ULBs (there are a few cases where elections have been deferred), and composition of ULBs. Progress in respect of the constitution of Metropolitan Planning Committees (MPCs) and District Planning Committees (DPC)s and Wards Committees (WCs) has, however, been tardy.

A critical aspect of the 74th Amendment related to the functions and fiscal powers of the ULBs. According to studies conducted on this aspect, most states have amended the municipal legislations to incorporate either in full or in part, the Schedule 12 functions, but their de facto transfer to ULBs is lagging behind. In

almost all cases, the institutional arrangements in respect of land, preparation of Master Plans, and provision of services such as water supply that existed in the pre-1992 period have continued. This is one area where a dialogue with states seem imminent in order to provide clarity on this issue.

Another important aspect of the 74th Amendment relates to Article 243(Y) under which State Finance Commissions are to be set up to make recommendations on the fiscal package for ULBs, and also Article 280(3) under which the Central Finance Commissions are to make recommendations on the supplementary grants for the ULBs. The working of the SFCs has been comprehensively commented upon in the report of the Eleventh Finance Commission (EFC) and need not be elaborated here. More recent evaluations (limited to specific states) suggests two weak areas: (i) methodology for estimating the resource gap, (ii) absence of expenditure norms for various services. In this connection, it should be pointed out that there has been no systematic work on developing expenditure norms since the Zakaria Committee report in 1963. Several SFCs have utilised the Zakaria Committee norms, while other have made use of norms that are put out by Ministries from time to time. For this reason, it has been difficult for the SFCs to estimate the revenue gap at the level of ULBs and has rendered the revenue-sharing exercises somewhat arbitrary. This gap needs to be urgently bridged.

The Working Group also reviewed the methodology employed by the Eleventh Finance Commission (EFC) and Twelfth Finance Commission (TFC) for assessing the revenue gap of ULBs. Apart from the fact that neither of the Commissions attempted to assess the gap, the two successive Central Finance Commissions changed the basis for allocating the recommended amounts to states. Continuity, in the view of the Working Group is crucial for putting decentralization on firm grounds.

1.8 INTRODUCING THE JAWAHAR LAL NEHRU NATIONAL URBAN RENEWAL MISSION (JNNURM)

Jawaharlal Nehru National Urban Renewal Mission (JNNURM) was launched on 3rd December, 2005. The context of the Mission was that the ULBs and other institutions responsible for service provision were facing acute shortage of capacity and resources. Most ULBs were starved of resources on account of their inability to effectively use their revenue raising powers (a fact that the erstwhile plans had also been noting). Notwithstanding the Constitution (seventy-fourth) Amendment Act, the intergovernmental fiscal relations had changed, at best, marginally to make any noticeable impact on the ULBs finances. The accounting system did not permit accurate assessment of the financial position of ULBs. Continuation of many laws and systems which came into being in different contexts such as the Urban Land (Ceiling and Regulations) Act, 1976 had caused serious distortions in the land and housing markets.

Considering that this state of cities was hampering growth and poverty reduction objectives and considering the need for simultaneous action on meeting the infrastructure deficits and creating conditions for long-term sustainability of investments, the Government launched the JNNURM, with focus on the following:

- i. improving and augmenting the economic and social infrastructure of cities;
- ii. extending basic services to the urban poor including security of tenure at affordable prices;
- iii. initiating wide-ranging urban sector reforms whose primary aim was to eliminate legal, institutional and financial constraints that had impeded investment in urban infrastructure and services; and
- iv. strengthening municipal governments and their functioning in accordance with the provisions of the Constitution Amendment.

The Mission rests on the postulate that in order to make cities work and meaningfully contribute to India's economic growth and poverty reduction objectives, it is essential to create incentives and support for reforms both at the state and city levels; develop appropriate enabling frameworks; enhance the creditworthiness of municipal governments, and integrate the poor with service delivery systems.

The JNNURM is applicable, in the current phase, to 63 cities which comprise all metropolitan cities (+1 million population), state capitals, and a few cities of religious and historic importance. A list of cities together with the sectors for which grants is available and a list of the reforms are given in the Annex 5. The list of reforms includes those reforms that formed a part of URIF. Moreover, the earlier scheme of Mega-Cities has been merged with JNNURM (although assistance for projects taken up under Mega-cities may continue).

1.9 ISSUES CONFRONTING CITIES

The issues and problems confronting cities have been widely documented. The Working Group has noted the analysis of the urban problems and issues as contained in the Tenth Five Year Plan. However, it would like to underline the more critical problems of land, governance, and capacity-at the level of ULBs..

Urban land is an extremely complex issue. While data on the quantities of land that have become available for urban use over the past decade (or decades) are not available, there is no denying of the fact that it is a major constraint to urban development in India. Apart from the lands that are locked up on account of the poor and tardy implementation of the Urban Land (Ceiling and Regulation) Act, 1976, conversion of rural lands for urban use has been an extremely slow and tardy process. There are other legislations too (Transfer of Property Act, 1982, Registration Act, 1908, and Indian Evidence Act, 1872), that have impacted negatively on the land market. The effects of the rent control act have been equally disastrous on rental housing.

A second area that the Working Group feels needs special attention is concerned with governance of urban areas. As pointed out in an earlier section,

the management and governance of urban areas is fragmented between different State-level agencies and ULBs, with no mechanisms of coordination. Also, the governance requirements under the 74th Constitutional in respect of the District Planning Committees and Metropolitan Planning Committees have not been met in a number of states. This has meant confusion in the allocation of functional responsibilities. The Ministry of Urban Development has formulated and circulated a set of guidelines related to Municipal Bye-laws. However, the complex issue of delineating the functional territory of certain organizations, culling-out others and developing inter-organizational partnerships has not been suitably addressed. The following guidelines are suggested :

- (i) Urban Local Bodies should focus on areas within their existing Municipal limits and in consonance with the letter and spirit of the 74th Constitutional Amendment Act should be responsible for preparation of Locality, Ward and City level plans. In this regard they should be assisted by the Town & Country Planning Department of the State.
- (ii) Multiplicity of Development Authorities should be avoided and there should be an Urban Development Authority for the State focusing on development of new areas around existing towns and development of new townships. The function of this State Urban Development Authority should be to assemble land, develop it and dispose it off for all new areas and townships. Such a State Urban Development Authority has the advantage of cross-subsidizing the development of small and medium towns from financial gains made by disposal of developed land and buildings' in large commercial/industrial cities. The State Urban Development Authority should have a federal structure with experienced administrations becoming CEOs of large urban agglomerations outside municipal limits.
- (iii) The Town & Country Planning Department of each State should be entrusted with the function of Regional & Sub-Regional Planning and assisting ULBs in preparing their Master Plans. The function of this Department should be to prepare a Regional Plan for the whole State on the pattern of the Regional Plan-2021 of the National Capital Region prepared by the NCR Planning Board and Sub-Regional Plans according to the agro-climatic sub-regions of the State as well as Functional Plans relating to physical and social infrastructure such as Power, Integrated Water Management System, Urban and Suburban Transport, Sewerage and Solid Waste Management, Communications, Health and Education. The said Departments should also prepared District Plans for approval by the District Planning Committee and Urban Agglomeration Plans involving interface between Master Plans relating to the territorial limits of Urban Local Bodies and the urban development plans of Development Authorities. Master Plans relating to the territorial limits of Urban Local Bodies should be prepared by the ULBs using the technical expertise available in the Town & Country Planning Department of the State.
- (iv) There should be a State Urban Development Regulator to approve the Plans made by the Town & Country Planning Department; mediate disputes between ULBs, the State Urban Development Authority, Town & Country Planning Department, Public Works Department, State Electricity

Boards and other agencies involved in the urban agenda; enforce the various plans; as well as monitor the implementation of Functional Plans.

- (v) State Industrial Development Corporations should exclusively specialize in development of high quality industrial Estates located at a reasonable distance from the main city; the minimum distance being 7 kms. from the main city and maximum distance being calibrated by the size of the city and its growth potential.
- (vi) The Public Works Department relating to Building and Roads and Public Health of the State Government should be the technical arms of the ULBs and Development Authorities and officers from these Departments should be posted on deputation at various levels in the latter above SDOs.
- (vii) The Electricity Boards should be the technical arm of the ULBs and Development Authorities with regard to distribution of electricity supply.
- (viii) The Drainage Wing of the Irrigation Department should be the technical arm of the ULBs and Development Authorities with regard to stormwater drainage.
- (ix) The water supply and slum improvements functions should be handled by ULBs and Development Authorities within their respective jurisdictions. Accordingly, Urban Improvement Trusts, Slum Development Boards and Jal Niams should be phased-out and their assets vested in ULBs and Development Authorities.
- (x) Fifteen percent of the net receipts of Development Authorities from sale of land should devolve to Urban Local Bodies located within the Urban Agglomeration pertaining to the concerned Development Authority.
- (xi) Ten percent of the net receipts of Development Authorities from sale of land should devolve to the Town & Country Planning Department.
- (xii) Seven percent of the Extra Development Charges levied by Development Authorities should devolve to the office of the State Urban Regulator.
- (xiii) Expenditure of the ULBs and Urban Development Authorities on salaries and other allowances of staff should not exceed 7% of their Annual Budget. Routine tasks, as far as possible, should be outsourced.
- (xiv) Expenditure of the ULBs and Urban Development Authorities on operational, expenses excluding specific development projects should not exceed 10% of their Annual Budget.
- (xv) There should be a professional General Cadre of the ULBs at the State level managed by the Local Self Government Department of the State.
- (xvi) There should be a professional Cadre of the State Urban Development Authority managed by its Chief Administrator.

- (xvii) Private Land Development & Construction Companies should focus on the development of parcels of land auctioned to them on the basis of a transparent system.
- (xviii) While preparing the Regional, Sub-Regional and District Plans, care should be taken to promote a symbiotic development between urban centres and their rural hinterland.
- (xix) The District Planning Committee should be activated to act as an interface between ULBs and Zila Parishad Institutions and for preparing both Five Year & Annual District Plans as well as undertaking their periodic reviews.
- (xx) The Metropolitan Planning Council should be activated and made an effective instrument of Metropolitan Planning and evaluation.
- (xxi) After a period of 15 years, new areas developed by a given Development Authority should be transferred to the Municipality adjacent to which the new areas are located and any disputes relating thereto should be sorted-out by the State Urban Development Regulator. In this manner, the State Urban Development Authority should focus on development of new areas.

With a view to enforcing the above guidelines, the Ministry of Urban Development should undertake the following steps :

- (i) Devise a Centrally Sponsored Incentive Scheme with 100% assistance from the Central Government for the Eleventh Five Year Plan relating to Infrastructure Development where compliance with the aforementioned Urban Reforms Phase II (Phase I Urban Reforms being associated with the 74th Constitutional Amendment Act and its immediate aftermath) would entail an additional tranche of funds.
- (ii) Devise a Training Scheme for the 11th Five Year Plan (with 75% Central and 25% State funding) and nomination of specific Central and State Institutions for technical training of the staff of ULBs, Development Authorities and designated Technical Departments at the Central and State Levels.
- (ii) Based on nomination of specific Central and State Institutions for training of the Staff of ULBs and Development Authorities in Urban Development Finance, Project Management and Urban Governance concerted efforts be made for professionalisation of municipal and development authority cadres.
- (iv) Devise a Centrally Sponsored Scheme for Information, Extension & Communication of best practices in the sphere of Urban Finance, Projects and Governance involving field visits, workshops and seminars.

Unsatisfactory finances of ULBs is another issue that remains inadequately addressed, notwithstanding the 74th Constitutional amendment. The fiscal base of ULBs and the degree of autonomy they can exercise, have not undergone any change, even when the demographic pressures on ULBs have grown several

fold. Noting that it is a key reform under the JNNURM, the Sub-group underlines the importance of fiscal empowerment of ULBs in the context of the Eleventh Five Year Plan. A financially and fiscally weak third tier is incompatible with a strong federal state that India aspires to be one.

Low-level professional capacities at different levels-central, state, and ULBs are yet another constraint that have seriously affected not only the implementation of urban sector programmes, but also thinking about urban issues in an innovative manner. 'More of the same' in the programme components as well as in the day-to-day functioning of urban institutions have led to the compounding of problems instead of their resolution. The Sub-group is of the view that a major effort be directed on a sustained basis to build capacities at all the three levels of government. Urban issues are complex and acquiring greater complexity in the context of the global changes. A proper understanding of the urban phenomenon and the accompanying issues is a task that cannot be postponed beyond the Eleventh Plan.

1.10 APPROACH TO URBAN DEVELOPMENT IN THE ELEVENTH FIVE YEAR PLAN

Para 1.4 of the report has briefly laid out the urban perspective as it is likely to emerge during the Eleventh Five Year Plan. Eleventh Plan 2007-2012 will begin with an urban population base of 328.6 million persons. According to the Registrar General, approximately 37 million persons will be added to the country's total urban population during the Eleventh Plan. Given the demographic trends in the post-1991 period and signs of stronger linkage between urbanization and economic growth processes, the likelihood is that the states with higher GDP growth rates may urbanize at a higher rate. This perspective is based on the premise of the continuation of economic policies of the post-reform period. An important determinant of the future urbanization perspective in India will be the preparedness of cities to take advantage of the expanding economic opportunities. More than ever before, the future course of urbanization will be linked with economic growth processes. Eleventh Plan Policy should recognize this, explicitly and be based on the emergence of a stronger interdependence between urbanization and economic growth.

Eleventh Plan urban policy should aim at contributing directly to the overall national goals and objective. This is possible to be articulated under three heads.

Increasing the efficiency and productivity of cities: Increasing the efficiency and productivity of cities/towns is dependent on strategies and measures that ensures the availability of adequate land, economic infrastructure, environmental services, and skilled and trained manpower. Thus, the key measures for this will be -

- Deregulation and development of the land market. It would involve a major reform of those legislations and regulations that have constrained the functioning of the land market, and other ancillary actions like land titling, and legal requirements for local government approval for construction activity. The JNNURM incorporates this as a major reform agenda.
- Dismantling the public sector monopoly over urban infrastructure and introduction of competition in the provision of urban infrastructure
- Creating conditions for the private sector to invest in urban economic infrastructure, e.g., a viable commercial framework with appropriate safeguards.
- Creating autonomous regulatory bodies to oversee the functioning of the private and public sector (e.g., level playing field, prevention of monopolies, tariff setting, etc.)
- Strengthening of urban local governments so that they can expand supply of those services that are characterized by (i) indivisibilities and (ii) very high negative externalities that are unlikely to be absorbed by private sector pricing.

- Human resource development (interfacing with the Ministries of Labour and Human Resources).

Reducing the incidence of poverty and deprivation in cities/towns. Poverty reduction means finding ways to reach out to the urban poor (the present methods are faulty), to engage them in productive activities, and to enable them to gain access to basic services. Here, the key components of the strategy will be -

- Consolidation of the highly fragmented urban poverty alleviation programmes into one flexible, umbrella programme, for the urban poor – (this is what JNNURM aims at)
- Effective targeting using either a self-identification system, giving details on (i) income status of household members, (ii) employment status of household members, (iii) shelter status, and (iv) the nature of collateral – assets or community – the poor households are able to mobilize, or a selection process by institutions responsible for the financing and managing the poverty alleviation programmes.
- Using in the case of small loans, community channels for extending loans and loan recoveries as also for other related assistance, and strict financial viability criterion for larger loans e.g., for micro-enterprises.
- Ensuring adequacy and timely availability of inputs rather than providing inadequate inputs at subsidized interest rates, and at times when inputs may not be needed.

This aspect is covered in detail in the report of another working group.

Orderly and environmentally-sustainable development of cities/towns-

- Provision and equitable distribution of environmental services,
- Establishment and enforcement of local environmental codes and an incentive programme for the codes to be followed,
- Revision of the existing planning system and codes which are in conformity with uses earlier considered to be incompatible, and their enforcement.

JNNURM STRATEGY

Working Group is of the view that no relaxation of the reform agenda on any ground other than the natural calamities be permitted. JNNURM reform agenda is unique in that it creates an environment for cities to become efficient, equitable and accountable. Working Group anticipates that with the elimination of statutory and procedural bottlenecks and the supplementary actions that have been taken to improve the fiscal performance of ULBs, cities will become major partners in the process of economic and social development.

An overall central budget of Rs.50,000 crore is indicated for JNNURM for a period of 7 years. On an annual basis, it is about Rs.7000 crore. On the assumption that it will be able to leverage an equal amount, the expected investment in the urban sector infrastructure will be less 0.5% of GDP. This is

grossly insufficient for meeting the basic needs of cities. The Eleventh Plan may need to provide significantly larger amounts, if cities are to become partners in the development process.

URBAN PLANNING

Working Group reviewed the existing status of Master Plans in India. It took note of the fact that the experience of implementing the Master Plans has not been encouraging because of weak data base, financial constraints, lack of resource mobilization, over-ambitious plan proposals, lack of integration between spatial planning proposals with economic development plans and inadequate legislative support. It accepts the position often advanced that Master Plans, instead of being rigid and static, should be made feasible and dynamic to incorporate the changing situations.

Specific suggestions in respect of urban planning may be seen in Annexure -I.

SUSTAINABILITY IN FUTURE URBAN GROWTH

Cities in India consume large quantities of energy and water, and produce equally large quantities of liquid and solid wastes. Urban environment management has not been accorded priority in any of the previous five year plans. Indeed, it is one of the most neglected areas in planning future urban growth and development. A detailed note with specific suggestions on setting up a performance management system and green rating of buildings is given in Annexure-II.

DATA BASE AND RESEARCH

Successive five year plans have underlined the importance of creating a second urban database in the country. The Sub-group notes with concern that even the data base that the Registrar General of India and the National Sample Survey Organization used to put out in public domain has, over the years, weakened. To give a few examples: while earlier, the Census of India used to provide occupational breakup of cities, under nine categories, the same is not compiled any more, with the result that it is not possible to assess the nature of structural shifts that have taken place in the economy of cities in the post-reform period. There are examples of erroneous data as well: the Census of India reports that the % of population in slums is 0.3 in Patna, 8.2% in Lucknow, 8.7% in Bhopal, and 9.5% in Agra which are, *prima facie*, wrong. It is equally a matter of concern that the data on the urban share of GDP is available for 1999/00 (published just two months ago). There exists no data with the Planning Commission on the plan outlays and expenditures on urban development for different states.

At the level of local bodies for which the Eleventh Finance Commission recommended a sum of Rs.200 crore for creation of a data base, information gaps are even more serious. Many cities do not maintain data on the levels of services that they provide and what they spend on them.

Urban development sector is seriously handicapped for want of basic information and data. As cities acquire greater complexity and linkages with macro-economic parameters, it becomes necessary to ascertain how urban economies are impacted by changes in macro indicators. The Eleventh Five Year Plan may initiate a specific scheme for data base creation and maintenance.

Urban research in India is, at best, notional and can be described in terms of data collection and presentation. Compared to the 1970s when urban research in India was substantial (e.g., studies on optimal size, rural-urban migration urban informal sector etc.), research in the more recent years is focused on gathering data on government sponsored urban sector schemes. If India is not to loose out in terms of understanding the complex relationships between cities with the economy as a whole as well as intra-urban relations, it is essential that the Eleventh Plan allocates a longer allocation for urban research and encourages urban research.

1.11 NATIONAL CAPITAL REGION PLANNING BOARD (NCR-PB)

The NCR Planning Board has financed Infrastructure Projects having a total cost exceeding Rs. 8,600 crore. The Board raises funds in the Capital Market through Private Placement Bonds. It receives a small annual grant-in-aid as a promotional measure. The total grant-in-aid sanctioned during the 10th Plan period for the NCR Planning Boards is Rs. 313 crore. Against this modest grant, the Board will be releasing loans to the tune of Rs. 1500 crore during the 10th Plan period and financing infrastructure Projects with an estimated cost of Rs.4000 crore.

NCR Planning Board, therefore, is able to lever a modest grant received from the Ministry of Urban Development to finance a much larger basket of projects. This scenario emerges from the fact that for the last 9 years, the Board has a AAA(SO) rating from CRISIL which is the highest rating for such type of institutions. The Board has so far a 100% record of recovery and has no NPA.

The Board can finance projects in excess of Rs.15,000 crore during the 11th Plan (2007-2012) with support from the Ministry with regard to the following measures.

- (i) A 15% grant component to be combined with loans given by the Board to State Governments, ULBs, Development Authorities or other development agencies. In this regard, the Ministry has kindly to written to the Planning Commission. The matter needs to be followed-up to its logical conclusion.
- (ii) Broadly, on a scale of 5% grant for every Rs. 1000 crore, the Board is seeking a promotional GIA segment of Rs. 775 crore to be spread over a period of 5 years during the 11th Plan period. The comparable GIA in the 10th Plan period was Rs. 313 crore.
- (iii) The Board intends to participate in the financing of Infrastructure Projects with a total cost of about Rs. 15,305 crore out of which about Rs. 300 crore pertains to on-going projects for which no grant

component has been sought. In case, the proposal of the Ministry of Development for 15% grant is accepted by the Planning Commission and the Ministry of Finance, an allocation of Rs. 2212 crore spread over five years will be required for this purpose in the 11th Plan. This entire grant amount @ 15% of the project cost financed will be passed on to the State Governments, ULBs, development agencies or other development agencies undertaking Infrastructure Projects in the National Capital or CMA cities.

- (iv) JNNURM with a grant component of 60% and UIDSSMT with a grant component of 80% are the major drivers of urban development in India today. It is essential to link the activities of the NCRPB with the implementation of these schemes. This can be done by stipulating that the Board will offer a loan of 75% of the non-grant component of the projects undertaken under JNNURM and UIDSSMT. Further, it is pointed out that the Board can appraise city Development Plans, with limited strengthening of staff prepared by ULBs/Development Authorities under the aforesaid schemes. It will, therefore, be desirable that this task is assigned to the Board for the towns/cities location in the National Capital Region and with reference to CMA cities.
- (v) The Board will be required to raise appropriate resources in the Capital Market for participating in infrastructure Projects having a total cost of Rs.15,305 crore. As in the past, necessary support from the Ministry in terms of a letter of comfort will be required for this task. Further, on the pattern of the NHAI and the Rural Electrification Corporation, the Board will request the Ministry to support a proposal for issuance of Capital Gains Bonds (u/s 54 EC of the Income Tax Act 1961) with the approval of Ministry of Finance.
- (vi) So far the Board has not accessed funds from multilateral funding institutions like the World Bank or the Asian Development Bank. The Board requests the Ministry to facilitate our effort to procure funds from these sources.
- (vii) The Board is keen on taking up large Infrastructure Projects within the National Capital Region. The Board in its 29th Meeting held on 24.5.2006 approved the formation of a High Powered Board and an Empowered Committee for facilitating inter-state coordination. The Ministry has kindly approved these proposals and necessary orders with regard to formation of these bodies have been issued. It will be useful to take-up issues like speedy construction of Lakhwar-Vyasi, Renuka and Keshau dams and implementation of a Regional Rapid Transit System through meeting of the EC and HPG.

1.12 RECOMMENDATIONS & FUNDS REQUIREMENT DURING 11TH PLAN

NATIONAL URBAN INFRASTRUCTURE DEVELOPMENT FUND (NUIF)

NUIF is proposed to be set up as a Trust to provide source of funding for bankable projects/schemes pertaining to the Urban Local Bodies (ULBs). The commercial banks are hesitant to lend to ULBs due to apparent lack of capacity of ULBs to meet their debt service obligations on one hand and lack of expertise amongst financial institutions to lend for viable urban infrastructure projects on the other. NUIF will serve as Special Purpose Vehicle which will create necessary comfort level amongst financial institutions with respect to repayments by avoiding direct exposure of commercial banks to ULBs. It shall also help to create necessary capacities in the ULBs to develop bankable projects. The process of consultation for setting up of NUIF is presently in advanced stage.

POOLED FINANCE DEVELOPMENT FUND (PFDF)

Government has approved on 29.9.2006 the proposal regarding setting up of a Pooled Finance Development Fund to provide credit enhancement to urban local bodies to access market borrowings based on their credit worthiness through state level Pooled Finance mechanism. The broad objectives of PFDF are:-

- ❖ Facilitate development of bankable urban infrastructure projects through appropriate capacity building measures and financial structuring of projects. Bankable projects within the context of PFDF are defined as those projects structured with appropriate credit enhancement measures in such a way that they demonstrate the capacity for servicing the market debt to the satisfaction of the rating agencies and potential investors.
- ❖ Facilitate Urban Local Bodies to access capital and financial markets for investment in critical municipal infrastructure by providing credit enhancement grants to State Pooled Finance Entities (SPFEs) for accessing capital markets through Pooled Financing Bonds on behalf of one or more identified ULBs for investment in identified urban infrastructure projects.
- ❖ Reduce the cost of borrowing to local bodies with appropriate credit enhancement measures and through restructuring of existing costly debts.
- ❖ Facilitate development of Municipal Bond Market.

A Resolution conveying the decision of the Government has been issued on 25.10.2006. Necessary action for requesting all the State/UT Governments to take necessary preparatory action for operationalisation of the scheme in the State in accordance with the guidelines of the scheme to avail benefit from this financial year has been taken. In this connection, to sensitize the State Governments and all Stakeholders for implementation of the scheme in a time-bound manner, a National Workshop was organized in Chennai on 20th November 2006 and the scheme was formally launched. Ministry of Finance, Department of Revenue has also been requested to expedite finalization of the Guidelines for issue of Tax Free Pooled Finance Development Bonds and necessary amendments in the Income

Tax Act so that the scheme could be operationalised during financial year 2006-07.

A provision of Rs. 400 crore was made for Xth Plan. However, no expenditure was incurred as the scheme could not be operationalised. During 2006-07, Rs.50.00 crore has been provided for the Scheme. For 11th Plan period a provision of Rs. 2500 crore has made.

RESEARCH IN URBAN & REGIONAL PLANNING SCHEME

Research in Urban and Regional Planning, renamed as Research & Capacity Building in Urban & Regional Planning is a Central Plan Scheme to initiate, formulate and assist the research and training programmes under various components of urban development. Under this scheme grants-in-aid are provided to various organizations/institutions for research projects, seminars, workshops, training programmes, etc. During the first four years of the Tenth Plan period, a sum of Rs.4.46 crore has been spent and a sum of Rs.3.00 crore has been provided for utilization in the last year of the Tenth Plan period, i.e. 2006-07.

It was decided to provide financial assistance to one institute/organization in each State/UT for taking up training programmes of all the elected women representatives in the urban local bodies of that State/UT during the Tenth Plan period, besides providing financial grants to various organizations/institutions for conducting various research projects, seminars, workshops and other training programmes relating to urban development. A sum of Rs.1.95 crore has been released so far for training of women councilors in the urban local bodies of 21 States/UTs.

During the Eleventh Plan period, it is proposed that the Ministry would continue to provide grants-in-aid for the training programmes for women councillors as well as for other research and training programmes, seminars, workshops, etc which are meant for betterment of urban system in the country and urban life. The year-wise estimated budget for this Plan period is as under:

Year	Estimated Expenditure (Rs. in crore)
2007-08	1
2008-09	1
2009-10	1
2010-11	1
2011-12	1
TOTAL	5

NATIONAL URBAN INFORMATION SYSTEM (NUIS)

Standing Committee on Urban Management (SC-U) under the National Natural Resource Management System (NNRMS) programme of the Department of Space, mooted a proposal to develop a holistic National Urban Information System (NUIS) Scheme. Accordingly a Sub-Committee was constituted which submitted a report on NUIS focusing on spatial database.

To avoid duplication all the schemes relating to urban information system have been subsumed under the newly framed scheme namely NUIS. NUIS scheme comprises of broadly two major components (a) Urban Spatial Information System (USIS) to meet the spatial (map/ images, data/information) requirements of urban planning for routine functions and (b) National Urban Databank and Indicators (NUDBI) to develop town-level urban database to support development of indices through a network of Local Urban Observatories (LUO) under the National Urban Observatory (NUO) programme.

During 1st phase, 137 towns/cities will be covered under NUIS Scheme at an estimated cost of Rs.66.28 crore to be shared by the Centre and the State in the ratio of 75:25. Generation of digital maps and GIS database under this Scheme is being outsourced to Survey of India who will undertake the job jointly with National Remote Sensing Agency(NRSA). The Town and Country Planning Organization (TCPO) under the Ministry of Urban Development would be the nodal agency for implementation and review of the Scheme.

Govt. of India has since approved the Scheme. A Memorandum of Agreement (MOA) between the Ministry of Urban Development and Survey of India has been signed on March 13, 2005. As per this agreement, total job of 137 towns/cities/urban-agglomeration shall be completed within 15 months from the date of signing of the agreement. During the 1st phase of this scheme, a total estimated sum of Rs.66.28 crore would be spent, out of which the Central share is Rs.49.71 crore. The Survey of India has already been released Rs.16.24 crore in 2005-06. A sum of Rs.24.00 crore has been provided in the current financial year. Hence, a sum of Rs.9.47 crore may be provided in the Annual Plan 2007-08.

NATIONAL MISSION MODE PROJECT ON E-GOVERNANCE IN MUNICIPALITIES

A Mission Mode Project on e-Governance in municipalities is being prepared by this Ministry to make urban governance more efficient and effective. Since local government is the first interface between citizens and government in a democratic country, this initiative of the Ministry of Urban Development would solve a number of problems that the people in towns and cities are facing due to rapid urbanization. It would assist improved service delivery, decentralization, better information management & transparency, citizen's involvement in government, improved interaction between local governments and its citizens as well as other interest groups like NGOs, CBOs, RWAs, etc. The overall aim of the project is to boost internal government operations to support and stimulate good governance. The Project will be implemented in all the 423 cities/towns having population of one lakh and above within a period of five years.

A draft scheme , National Mission Mode Project on e-Governance in Municipalities Scheme 2005, prepared by this Ministry has also received the 'in-principle' approval of the Planning Commission. The scheme is awaiting approval of the Government.

An estimated cost of Rs.787 crore would be spent for implementation of the project. The share of the Central Government in the total cost would be Rs.676

crore. Under this Scheme, nodal agencies in the State would be released grants in instalments for implementation of project. The project will be implemented in all the 423 cities/towns during a period of five years from 2006-07 to 2010-11. However, the States would be provided annual maintenance grants for two years after commissioning the project. Hence, grants will be released to States till 2012-2013. In the current financial year a sum of Rs.75 crore has been provided against the estimated requirement of Rs.173 crore. The year-wise estimated requirement funds in the Eleventh Plan period for implementation of the Project would be as follows:

Year	Estimated Expenditure (Rs. in crore)
2007-08	241
2008-09	119
2009-10	96
2010-11	93
2011-12	34
TOTAL	583

ASSISTANCE FOR ULB CAPACITY BUILDING FROM UNDP

UNDP assisted project on Capacity Building for Decentralised Urban Governance has been launched on 1st November, 2006. As per the strategy, the programme will be implemented in 16 urban local bodies (ULBs) 4 in each of the four States, viz. Kerala, Orissa, Rajasthan and Uttar Pradesh through identified State Level Implementing Agencies (SLIAs).

The objectives of the Project are:

- Review of existing State and ULB relations and suggest measures for effective devolution.
- Instituting an interface between the citizens and ULBs through ICT enabled access points alongwith other traditional methods and to assist cities in operationalising PDL and MCDL.
- Adoption of National Municipal Accounting Manual (NMAM) at the State level with State specific modifications and operationalising it in all the 16 ULBs. Shift to accrual based financial accounting and management by all the 16 ULBs and credit rating of at least 10 ULBs (2 ULBs in each project State by a reputed credit rating agency).
- Capacity Building for preparation of City Development Plans (CDPs), Detailed Project Reports (DPRs) and other bankable projects.
- Preparation of computerized inventory of municipal assets of all the 16 ULBs with an objective to recover full cost of Operation and Maintenance and recurring cost incurred in delivery of basic services from the users in the next seven years.
- Implementing Property Tax Reform with an objective to achieve substantial increase in the Property Tax collection in all the 16 ULBs.
- Establishing institutional mechanism in ULB/State to implement pro-poor reforms in JNNURM.

The execution of this project is expected to result better financial management and planning process at the city level thereby improving service delivery mechanism coupled with transparency and accountability in governance.

The Development outcomes of the Project are:

- Adoption of National Municipal Accounting Manual (NMAM) at the State level with State specific modifications and operationalising it in all the 16 ULBs. Shift to accrual based financial accounting and management by all the 16 ULBs and credit rating of 9 ULBs (Non-JNNURM cities) by a credit rating agency approved by SEBI. This also includes capacity building of municipal staff to carry out the task in an efficient manner after migration to Double Entry Accounting system by the Municipality.
- Carrying out rapid assessment of cities and preparation of baseline data leading to formulation of City Development Plans for non-JNNURM cities (Nine in numbers) covered under the project.
- Implementing property tax reforms with a view to achieving substantial increase in property tax collection in all the 16 ULBs. Setting up a mechanism to collect property taxes on-line in all the 16 ULBs.
- Review of existing State and ULB relations and develop indicators to measure decentralized governance and test these in select cities with respect to performance of the ULBs (limited to only service delivery).

A sum of Rs. 9.00 crore would be spent for this project and the project has to be completed by the end of March, 2008. The Budget Division has been requested to provide a sum of Rs.3.00 crore through reappropriation for implementation of the scheme in the current financial year, 2005-07. The balance amount, i.e. Rs.6.00 crore may be provided in the Annual Plan, 2007-08.

**Requirement of Funds for Urban Development during
Eleventh Plan (2007-12) & Annual Plan (2007-08)**

(Rs. crore)

Name of the Scheme	10 th Plan (2002-07) Approved Outlay	Annual Plan (2005-06) Actual Expenditure	Annual Plan (2006-07) Anticipated Expenditure	10 th Plan (2002-07) Accumulated Expenditure	11 th Plan (2007-12) Proposed Outlay	Annual Plan (2007-08) Proposed Outlay
1	2	3	4	5	6	7
Urban Development (excluding Urban Transport)						
i) Contribution to Nation Capital Region Planning Board	262.00	136.00	152.00	710.72	10553.00	864.00
ii) Research & Capacity Building in Urban & Regional Planning	15.00	0.96	1.00	5.50	5.00	1.00
iii) Capacity Building for Urban Governance (United Nations Development Programme)	0.00	0.00	3.00	3.00	6.00	6.00
iv) PFDF	400.00	--	50.00	50.00	2500.00	475.00
v) NUIF	--	--	--	--	0.01	0.01
vi) National Urban Information System	0.00	16.24	24.00	40.24	9.47	9.47
vii) Mission Mode on IT	0.00	0.00	75.00	75.00	583.00	241.00
Total	677.00	153.20	305.00	884.46	13656.48	1596.48

Requirement of ACA under JNNURM / UIDSSMT

i) JNNURM	3000.00	90.10	2500.00	1041.00	22500.00	4200.00
ii) UIDSSMT	990.00	87.48	900.00	987.48	7500.00	1500.00

URBAN WATER SUPPLY AND SANITATION (INCLUDING LOW COST SANITATION, SEWERAGE AND SOLID WASTE MANAGEMENT) AND URBAN ENVIRONMENT

BACKGROUND:

2.1 WATER SUPPLY & SANITATION FACILITIES - STATUS OF COVERAGE

On the basis of information furnished by the State agencies in charge of Urban Water Supply and Sanitation Sector, about 91% of the urban population has got access to water supply and 63% to sewerage and sanitation facilities as on 31.3.2004. However, adequacy, equitable distribution and per-capita provision of these basic services may not be as per prescribed norms in most of the cities. For instance, the poor, particularly those living in slums and squatter settlements, are generally deprived of these basic facilities.

The population coverage in the past decades and as of March 2004 is as shown in table-III below:

Table-III: Percentage of population covered with Water Supply & Sanitation Facilities

Year	Urban population (million)	Percentage of population covered with	
		Water Supply	Sewerage and Sanitation
1981	152	78	27
1991	217	84	50
2001	285	89	63
2004	308 (projected)	91	63

From the above, it may be seen that the coverage of urban population with water supply and sanitation facilities in the past had not been very impressive, due to various reasons, including the fact that the investment made in the urban water supply and sanitation sector had been hardly of the order of 1.00 to 1.5% of the total public sector outlay in the previous Five Year Plans. Because of these reasons, the targets set for achieving coverage of 100% population in urban areas with water supply and 75% with sewerage and sanitation facilities during Tenth Plan are not likely to be achieved.

2.2 WASTEWATER GENERATION, TREATMENT AND DISPOSAL-STATUS:

As per assessment made by the Central Pollution Control Board (CPCB) on the status of wastewater generation and treatment in Class I cities and Class-II towns during 2003-04 (Table-IV), about 26,254 MLD of wastewater is generated in 921 Class I cities and Class II towns in India (housing more than 70%

of urban population). The wastewater treatment capacity developed so far is about 7044 MLD – accounting for 27% of waste water generated in these two classes of urban centers.

Table IV: Status of water supply, wastewater generation and treatment in Class I Cities/Class II towns in 2003-04

Parameters	Class I Cities	Class II Towns	Total
Number (as per 2001 census)	423	498	921
Population(millions)	187	37.5	224.5
Water Supply(MLD)	29782	3035	32817
Water Supply(lpcd)	160	81	146
Wastewater generated(MLD)	23826	2428	26054
Wastewater generation(lpcd)	127	65	116
Wastewater treated(MLD)	6955 (29%)	89 (3.67%)	7044 (27%)
Wastewater untreated(MLD)	16871 (71%)	2339 (96.33%)	19210(73%)

The data on wastewater generation and treatment in Class I cities and Class II towns in India during 2003-04 for each State and Union Territory indicates that the wastewater generation in these cities has increased threefold i.e. from 8233 MLD in 1978 – 79 to 26254 MLD in 2003-04. Although, the treatment capacity has also increased by two and half times from 2823 MLD in 1978-79 to 7044 MLD in 2003-04, but the gap of untreated volume has increased drastically.

2.3 MANAGEMENT OF MUNICIPAL SOLID WASTE:

The management of municipal solid waste is one of the most important obligatory functions of the urban local bodies, which is closely associated with urban environmental conditions. The 74th constitutional amendment gives constitutional recognition for local self government institutions specifying the powers and responsibilities. And therefore, the time has come, when all the concerned authorities should make concerted efforts to control and mitigate the problem of municipal solid waste.

Solid Waste Management (SWM) is a part of public health and sanitation, and according to Indian Constitution, it falls under State list. Since this activity is non-exclusive, non-rivaled and essential, the responsibility for providing the service lies within the public domain. As this activity is of local nature, it is entrusted to the Urban Local Bodies. The Urban Local Body undertakes the task of solid waste service delivery, with its own staff, equipment and funds. In a few cases, part of the said work is contracted out to private enterprises.

There has been no major effort in the past to create community awareness, either about the likely perils due to poor waste management or the simple steps that every citizen can take, which will help in reducing waste generation and promote effective management of solid waste generated. The degree of community sensitization and public awareness is low.

It is estimated that about 1,15,000 MT of Municipal Solid Waste is generated daily in the country. Per capita waste generation in cities varies from 0.2 kg to 0.6 kg per day depending upon the size of population. An assessment has been made that per capita waste generation is increasing by about 1.3% per year. With growth of urban population ranging between 3 to 3.5% per annum, the annual increase in overall quantity of solid waste generated in the cities is assessed at about 5%. The collection efficiency ranges between 70 to 90% in major metro cities, whereas in several smaller cities it is below 50%. It has been estimated that the Urban Local Bodies spend about Rs.500 to Rs.1500 per tonne on solid waste collection, transportation, treatment and disposal. About 60-70% of this amount is spent on street sweeping, 20-30% on transportation and less than 5% on final disposal of waste, which shows that hardly any attention is given to scientific and safe disposal of waste. Landfill sites have not yet been identified by many municipalities and in several municipalities, the landfill sites have been exhausted and the respective local bodies do not have resources to acquire new land. Due to lack of disposal sites, even the collection efficiency gets affected.

Very few Urban Local Bodies in the country have prepared long term action plans for effective Solid Waste Management in their respective cities. For obtaining a long term economic solution, planning of the system on long term sustainable basis is very essential.

The Ministry of Environment & Forests, Government of India has notified Municipal Solid Waste (Management & Handling) Rules, 2000 to tackle this problem.

Increase in quantity of municipal solid waste generation with increase in the urban population is quite obvious. Efforts towards waste recycle, reuse and resource recovery for reduction in waste and adoption of more advanced technological measures for effective and economical disposal of municipal solid waste is need of the hour.

2.4 SECTOR FUNDING:

Though the urban water supply and sanitation sector had remained as an important area of concern, but allocation of funds made right from the First Five Year Plan onwards has remained almost of the order of 1.00 to 1.5% of the total public sector outlay. The outlay for urban water supply & sanitation (UWSS), which was Rs.43 Crore (1.28% of the total public sector outlay) in the first Five Year Plan, gradually, increased to Rs.550 Crore (1.40%) by the Fifth Plan. Despite a rapid increase in the urban population, there has been a gradual shift in priority from Urban to Rural Sector from the Sixth Plan onwards. The percentage share of urban sector, out of the total public sector outlay, showed only a marginal increase from 1.28% to 1.38% between the First Plan and the Eighth Plan. In the Ninth Plan, this, however, could step up to 2.17%. The tentative 10th Plan outlay for urban water supply & sanitation sector is Rs.18749.20 crore, which is only 1.3% of total public sector outlay. The Plan-wise investments for the UWSS sector in India may be seen at **Annexure-III**.

2.5 GOVT. OF INDIA INITIATIVES:

Government of India has taken a number of initiatives for water supply and sanitation sector right from Independence. The Environmental Hygiene Committee set up for the sector in 1949, made wide ranging recommendations for improvement of the sector including creation of Central Public Health and Environmental Engineering Organization (CPHEEO), which materialized in 1954. The sector got more impetus after International Water Conference held at Maar del Plata, Argentina in 1977, which paved the way for launching "International Drinking Water and Sanitation Decade (1981-90)" across the globe India actively participated in International Drinking Water and Sanitation Decade (1981-90) and took concrete steps to enhance the population coverage with water supply and sanitation facilities.

Other important initiatives undertaken by GOI for development of the sector are as under:

2.5.1 PHE TRAINING PROGRAMME:

Development of trained technical manpower is one of the thrust areas of the Ministry. The Central Public Health and Environmental Engineering Organization (CPHEEO), Ministry of Urban Development had been making efforts to promote PHE Training Programme since 1956. The magnitude of activities under the said programme has increased considerably over the years. In order to cater to the needs of the professionals working in various Water Supply & Sanitation Departments (water utilities), the following training programmes have been introduced and are being conducted through Academic and Research institutions and field departments:

- **Post Graduate Course in the PHE/ Environmental Engineering.** The duration of PG course is of two years. There are 11 recognized premier institutions, where in-service engineers are deputed for undergoing the course.
- **Short Term Course in PHE/ Environmental Engineering** is being imparted in two institutions. The duration of course is three months.
- **Refresher Courses** on various aspects of design, construction, operation and maintenance of water supply and sanitation facilities are conducted by 20 recognized academics & research institutes and field departments. The duration of the courses vary from one week to four weeks.

As of March 2006, about 30,600 technical personnel, at various levels, have been trained under the aforesaid programmes.

2.5.2 CENTRALLY SPONSORED INTEGRATED URBAN LOW COST SANITATION PROGRAMME

The LCS Programme has been transferred to the Ministry of Urban Employment & Poverty Alleviation during the 10th Plan period.

2.5.3 CENTRALLY SPONSORED ACCELERATED URBAN WATER SUPPLY PROGRAMME:-

A modest beginning was made in March 1994 to provide Central assistance for provision of safe drinking water supply facilities in towns having population less than 20,000 (as per 1991 census) in the country. Accordingly, the Centrally Sponsored Accelerated Urban Water Supply Programme (AUWSP) was launched in the country during March 1994. Under this programme, 50% of the estimated cost of the water supply scheme is provided by Government of India as grant, 45% by the respective State Government as grant and the balance 5% is mobilized through beneficiary contribution. However, this programme has since been subsumed under the newly launched scheme namely, Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT), which aims to cover all small and medium towns excluding those to be covered under Jawaharlal Nehru National Urban Renewal Mission (JNNURM).

2.5.4 TECHNOLOGY ADVISORY GROUP (TAG)

Pursuant to the recommendations of the Committee on Solid Waste Management for Class-I cities constituted by the Hon'ble Supreme Court of India, The Government of India, Ministry of Urban Affairs and Employment, Department of Urban Development constituted a Technology Advisory Group (TAG) on SWM vide Government of India order No.Q-11021/21/99-PHE dated 18th August, 1999 for a period of five years and later reconstituted the Technology Advisory Group on 16.01.2002.

The role and objectives of the Technology Advisory Group (TAG) set is as under:-

- To collect information on various proven technologies for processing and disposal of wastes, identify appropriate and cost effective technologies suitable under Indian (local) conditions through pilot projects where necessary and advise State Governments and urban local bodies to adopt such technologies.
- To provide technical assistance to urban local bodies for adopting the suggested technologies where feasible.
- To channelise and make optimum use of funds earmarked for SWM projects in the various Ministries, such as Ministries of Environment & Forest, Non-conventional Energy Sources, Agriculture, Urban Development, Planning Commission, financial institutions and international donor agencies.

- To develop IEC (Information, Education & Communication) material for awareness programmes and disseminate the same through mass and print media with the cooperation of State Governments and urban local bodies.
- To promote capacity building & HRD in urban local bodies identify their training needs, develop mechanism to meet the training needs and designate institutions in each State/region as resource centre for providing such training to various categories of personnel involved in SWM.
- To establish a bench mark on the performance of various urban local bodies in SWM and circulate the same to urban local bodies and State Governments, for information and improvement where necessary.
- To arrange/promote and coordinate inter-city, inter-state meets for SWM personnel to exchange information on various aspects of SWM.
- To provide a forum of public interaction and intervention in the field of SWM and strengthen/support participation by NGOs and citizens.
- To take suitable and appropriate measures as may be necessary from time to time to improve the SWM systems.

2.5.5 INTER-MINISTERIAL TASK FORCE ON INTEGRATED PLANT NUTRIENT MANAGEMENT USING CITY COMPOST

The Hon'ble Supreme Court of India, while hearing the Civil Writ Petition No.888 of 1996 in the matter of Mrs. Almitra Patel & Others Vs. Union of India on 14th January, 2003, had sought response of Union of India on the twelve suggestions submitted by the Petitioner, of which suggestion No.'8' reads as under:-

"Union of India shall ensure adequate funding, as outlined in the Report of the Committee set up by the Hon'ble Supreme Court of India, for their contribution to cleaning of Urban India and Union of India shall shift its subsidies from synthetic fertilizers alone to provide similar subsidies for combined use of synthetic fertilizers along with city compost that conform to the standards specified in MSW Rules."

In reference to suggestion No.'8', it has been submitted by the Government of India that the Ministry of Agriculture, Department of Integrated Plant Nutrient Management with Indian Council of Agricultural Research and Ministry of Fertilizers shall set up a Task Force to

- (i) Prepare a Policy, Strategy and Action Plan within 4 months for promoting "Integrated Plant Nutrient Management" using city compost along with synthetic fertilizers in every area of agriculture, horticulture, plantation crops, forestry and re-vegetation of mining over-burdens.
- (ii) Create market demand and supply mechanism for City Compost within 50 km radius of all urban local bodies and their compost plants.

In respect of the submissions, a reference was made to the Director General, Indian Council of Agricultural Research regarding Integrated Plant Nutrient Management (IPNM) with regard to feasibility of implementing suggestion No.8 as per the order of the Hon'ble Supreme Court of India.

Pursuant to the affidavit filed by Union of India in Feb. 2003 in the Hon'ble Supreme Court, the Ministry of UD had constituted an Inter-Ministerial Task Force on "Integrated Plant Nutrient Management using City Compost" vide Ministry's Order No.Q-11021/1/2003-PHE.II dated 26th March, 2003 to prepare a policy, strategy and action plan for promoting "Integrated Plant Nutrient Management" in all the areas of agriculture, horticulture, plantation crops, forestry etc.

The Task Force comprised of experts from the Indian Council of Agricultural Research (ICAR), Department of Fertilizers, Planning Commission, Ministry of Environment & Forests, Central Pollution Control Board (CPCB), Ministry of Agriculture, Department of Integrated Plant Nutrient Management with Special Invitee & NGO from Bangalore.

The Task Force has submitted its report to the Hon'ble Supreme Court in May, 2005 for consideration wherein general, financial, marketing and technical recommendations have been made. The salient recommendations of the Task Force are as under:-

GENERAL RECOMMENDATIONS:

1. Segregation & storage of waste, collection & transportation along with appropriate plant design should be enforced by ULBs as per Municipal Solid Waste (Management & Handling) (MSW) Rules, 2000.
2. Proper disposal of rejects/residue from the compost plant in a sanitary landfill (SLF).
3. For small towns with waste generation of 50 tons per day (TPD), biodegradable waste could be used exclusively for vermin-composting.
4. Union Ministry of Agriculture should ensure formulation of proper compost standards, grades, testing and regulatory provisions for composting. Adequate arrangements for certification of quality of compost need to be made.
5. Awareness amongst farmers should be brought about regarding use and benefits of organic manure vis-à-vis soil fertility, both as stand alone as well as a supplement to chemical fertilizer (Integrated Nutrient Plant Management). This can be introduced in the extension activity of the Ministry of Agriculture.
6. Relative advantages of compost produced from city garbage has to be thoroughly worked out and adequately publicized, especially among prospective client groups, such as, farmers, plantation owners/operators etc.

7. Compost from city garbage is a soil conditioner for improving not only the carbon content, nitrogen, phosphorus, potassium and other micro-nutrients in the soil, but also to improve the biological condition of the soil leading to increase in soil health and productivity.
8. Role of organic compost/humus as soil amendment leading to better absorption and holding of nutrients from chemical fertilizers needs to be studied by the scientists of ICAR .
9. Plantation of trees in three layers around compost plants should be made mandatory and while allotting land to eliminate problem of odour.

FINANCIAL RECOMMENDATIONS

10. Funds to the extent of Rs.700 crore should be considered by the Ministry of Finance, Government of India for setting up about 1000 compost plants and interest subsidy at discount rate of 12% for loan period to produce compost from city garbage.

Transport subsidy of Rs. 60 crore and promotional subsidy of Rs. 40 crore should be extended to composting sector. A subsidy of Rs. 100 crore should also be extended to existing compost plants to make them sustainable.

11. To promote private sector participation, entrepreneurs setting up compost plant in Joint Venture or private sector may be considered for tax holiday for 10 to 11 years and exemption of customs duty, excise duty, sales tax and other local taxes on equipment, machinery, processing plant, etc..
12. Entrepreneur/ Composter should be provided land on long term lease free of cost at existing dumpsites for setting up of compost plant. The private composter /ULB (in case of joint venture) be allowed to raise loans from Commercial Banks, NABARD, HUDCO and others by jointly mortgaging the land, if required.
13. Composter should not be asked to pay royalty to ULBs for garbage supplied.
14. Composter should be supplied electricity and water on the same rates as to agriculture or at concessional rate, whichever is less.
15. All the plants should have quality evaluation mechanism and organic manure enrichment facilities.

MARKETING RECOMMENDATIONS

16. Composter should practice value addition of compost before marketing, if required, in order to make it a profitable proposition.

17. In order to ensure marketing of compost, back-ended transport subsidy @ Rs. 100/- per metric ton of the finished product in bulk form should be considered for the composter for direct selling to farmers within 50 km. radius of the compost plant.

Subsidies should also be provided to storage agents of fertilizer companies @ Rs. 150/- per metric ton to ensure successful co-marketing of compost along with chemical fertilizer.

18. Massive awareness generation campaign regarding the utility of compost / organic manure both as stand alone as well as supplement to chemical fertilizers should be launched.
19. Co-marketing of compost from city garbage with chemical fertilizers as a basket approach by fertilizer companies should be made mandatory in the ratio of 6-7: 4-3 (i.e. 6/7 bags of chemical fertilizers with 4/3 bags of compost) within 100 to 150 kms. radius of any city / compost plant.

TECHNICAL RECOMMENDATIONS

20. Appropriate compost plant designs should be adopted by composters to economize on capital cost and operation & maintenance (O& M) cost.
21. Every compost plant of 100 TPD and above should essentially have a quality control laboratory to ensure testing of compost quality.
22. Compost plant should have facility to accommodate at least 5 to 7 days garbage.
23. At least 35% of composting pad should be covered from top to prevent rain water affecting decomposition.
24. Compost plant should be located at least 1 km. away from residential complex and 15 kms away from airstrip.
25. Compost plant should be designed and run in two shifts in order to economize on capital cost.

The Hon'ble Supreme Court, while hearing the aforesaid petition on 1st September, 2006, has directed Government of India to implement the recommendations made in the report of the Task Force with immediate effect.

2.5.6 Central scheme of Solid Waste Management & Drainage in Air Field Towns:

Bird hits are among the major causes of air crashes in our country leading to the loss of costly Defence Aircrafts and loss of invaluable lives of pilots. An Inter-Ministerial Joint Sub- Group-II constituted by the Ministry of Defence recommended to provide proper sanitation facilities, including Solid Waste Management and Drainage to overcome the bird menace in the following 10 towns having airfields of Indian Air Force :-

- | | |
|-----------------------|------------------------|
| 1. Gwalior (M.P.) | 2. Ambala (Haryana) |
| 3. Hindon (U.P.) | 4. Jodhpur (Rajasthan) |
| 5. Tezpur (Assam) | 6. Dundigal (A.P.) |
| 7. Sirsa (Haryana) | 8. Adampur (Punjab) |
| 9. Pune (Maharashtra) | 10. Bareilly (U.P.) |

The scheme has been approved by the Full Planning Commission in October, 2003 and it is proposed to implement the same in 3 years time with 100% grant from the Government of India towards the capital cost of the scheme. Subsequently, the concerned Urban Local Bodies will take over the scheme for continuing the same for day to day operations and maintenance. The O&M of the scheme would be borne by the respective Urban Local Bodies / State Governments. Presently the scheme is under implementation.

3. URBAN WATER SUPPLY & SANITATION SECTOR - REVIEW OF PROGRAMMES

3.1 TENTH PLAN -REVIEW

3.1.1 TENTH PLAN OUTLAY

Based on the recommendations of the Working Group on Urban Water Supply & Sanitation constituted by the Planning commission, the 10th Plan document indicated the following requirements of funds for achieving population coverage of 100% with Drinking Water supply facilities and 75% Sewerage & Sanitation facilities in the Urban areas and Solid Waste Management facilities in the 300 Class-I cities by 31.3.2007:

Water supply	-Rs.28, 240 crore
Sanitation	-Rs.23, 157 crore
Solid Waste management	<u>-Rs. 2, 322 crore</u>
Total	<u>-Rs. 53, 719 crore</u>

The tentative outlay for the Tenth Plan period, however, was only Rs.18,749 crore in the State sector, and Rs.1330 crore (Rs.900 crore for water supply and Rs. 430 crore for sanitation) in the Central sector; making a total outlay of Rs. 20,079 crore only against the total requirement of Rs. 53,719 crores as assessed by the Working Group. It is apparent that there has been a deficit of Rs.33,640 crore for the Urban Water Supply and Sanitation sector during the 10th Plan period.

3.1.2 TENTH FIVE YEAR PLAN APPROACH AND ASSESSED OUTCOMES:

The Tenth Five Year Plan (2002-07) has taken into account the guiding principles suggested in the New Delhi Declaration, which was adopted by the U.N. General Assembly in December 1990. These are: -

- Protection of the environment and safeguarding of health through integrated management of water resources and liquid and solid waste;
- Organizational reforms, promoting an integrated approach and including changes in procedures, attitudes and behavior and the full participation of women at all levels;
- Community management of services, backed by measures to strengthen the capacity of local institutions in implementing and sustaining water and sanitation programmes;
- Sound financial practices, achieved through better management of existing assets and extensive use of appropriate technologies.

The Tenth Five Year Plan envisaged augmentation of water supply in urban areas to reach the prescribed norms, higher degree of reliability, assurance of water quality, a high standard of operation and management, accountability to customers and in particular special arrangements to meet the needs of the urban poor and levy and recovery of user charges to finance the maintenance functions as well as facilitate further investment in the sector. The achievement of these tasks depends to a large extent on the willingness of the State Governments and Urban Local Bodies to restructure water supply organizations, levy reasonable water rates, take up reforms in billing, accounting and collection and become credit worthy in order to have access to market funding. Measures are suggested for water conservation, re-use and recycling of waste water.

The Tenth Plan suggested that the following measures to be taken by all Urban Local Bodies in order to optimize the available water and conserve water sources for better water management.

➤ **Reduction of leakage and unaccounted for water.**

Not much has been done on this important aspect in many urban local bodies in the country except a few larger cities which have undertaken some measures for identification leakage and its prevention and control, especially by way of externally assisted projects.

➤ **Recycle and Reuse of treated sewage for non potable uses in a decentralized manner.**

A few cities such as Chandigarh, Delhi, Chennai, Bangalore etc. have undertaken reuse of tertiary treated wastewater for non-potable uses like horticulture, gardening etc. For instance in Chandigarh about 40% of gardening requirement is being met by tertiary treated wastewater.

➤ **Prevention in use of potable water** for washing of vehicles, watering of gardens etc.

➤ **Promotion of Rain Water Harvesting and artificial recharge of ground water.**

The Ministry of UD has forwarded the guidelines on roof top rainwater harvesting and artificial recharge of ground water prepared by the Central Ground Water Board to all the States including the CPWD to implement rain water harvesting and artificial recharge of ground water in all the govt. buildings to start with. The TCPO has also prepared model building byelaw incorporating mandatory provision of rainwater harvesting and recycle of waste water and circulated the same to all the States for preparing similar byelaws by the respective ULBs and implement rainwater harvesting in all the premises having plinth area more than 100 sqm. and recycle of waste water of the premises discharging more than 10000 lit. per day and use it for horticulture etc. However, concerted efforts would only help to achieve the desired objectives.

- **Evolving realistic water tariff** so as to discourage excessive use of treated / potable water.

Not much has been done on this important aspect in many urban local bodies in the country except a few larger cities which have undertaken some measures by way of installing water meters in the consumer connections. The major reason for slow progress in this regard is that good quality meters are not available on a large scale since the meter manufacturing facility is vested with small scale industries at present, which do not have the wherewithal to produce in a large scale.

- **Mandatory use of water efficient systems like low volume flushing cisterns and "waste not taps" etc. to conserve water.**

Not much has been done on this important aspect. As of now, normal as well as low volume flushing cisterns are available in the market, which are manufactured as per BIS specifications. However, they are not largely used by the public and private since there is no mandatory requirement for use of such cisterns.

- **Poor O&M due to inadequate financial resources**

The responsibility of operation, maintenance and revenue collection is generally vested with the elected urban local body (ULB), while the specialized bodies are not able to raise the water tariff without the approval of the provincial Governments. The local bodies generally receive grant assistance ranging from 10% to 60% for capital works on water supply and sanitation from the State Government. Usually, they do not receive any grant assistance for operation and maintenance (O&M) of water supply and sewerage. Municipal bodies in many parts of the country suffer from inadequate resources. Much is to be done on this important aspect.

- ***Willingness to pay***

Assessment of demand and 'willingness to pay' by the communities, which would help to arrive at a basis for pricing water management services and to clarify the scope for adopting 'full cost recovery' policies to achieve financial sustainability.

— ***Much is yet to be done on this important aspect.***

3.2 CENTRALLY SPONSORED PROGRAMMES - REVIEW

3.2.1 CENTRALLY SPONSORED ACCELERATED URBAN WATER SUPPLY PROGRAMME:-

This programme was undertaken to provide water supply in smaller towns due to their low economic base and low priority given by the State Governments. These towns are often neglected during normal times and are worst hit during the period of drought. In order to extend financial support to the State Government/Local Bodies and to provide water supply facilities in towns having population less than 20,000 (as per 1991 census), the Centrally sponsored Accelerated Urban Water Supply Programme (AUWSP) was launched in March, 1994 with the following objectives:

- To provide safe and adequate water supply facilities to the entire population of the towns having population less than 20,000 (as per 1991 census) in the country within a fixed time frame.
- To improve the environment and quality of life.
- For better socio- economic condition and more productivity to sustain the economy of the country.

So far, water supply schemes for **1244** towns have been sanctioned under Accelerated Urban Water Supply Programme (AUWSP) since its inception from 1993-94 and **639** schemes have been completed / commissioned.

The progress made under the AUWS Programme is as under:

Plan Period	No. of Schemes approved	Estimated cost (Rs. in crore)	Central funds released by the Ministry (Rs. crore)
VIIIth Plan	223	212.06	68.62
IX Plan	437	623.86	291.95
X Plan			
2002-03	223	312.58	121.95
2003-04	154	249.88	131.56
2004-05	207	424.00	150.00 #
2005-06	Nil @	Nil @	44.24 *
2006-07	— Nil @	Nil @	19.74 *
Total	1244	1822.38	828.06

@ No new schemes were considered under Centrally sponsored AUWSP since the same has been subsumed with UIDSSMT.

* Committed liabilities for earlier approved schemes under AUWSP.

Rs.4 crore has been released to Andaman & Nicobar Island for Tsunami works

- Up to 31.3.2005, the Ministry of Urban Development has sanctioned
 - 1244 Water Supply Schemes for 1244 towns at total estimated cost of Rs. 1822.38 crore.
- Central share released upto March 2005 = Rs.764.08 crore*

During 2005-06	=	Rs. 44.24 crore
2006-07 till 30.9.2006	=	Rs. 19.74 Crore
Grand total till 30.9.2006	=	Rs.828.06 crore
- * including Rs.4 crore released to Andaman & Nicobar Island for Tsunami works
- Outlay for 2006-07 to meet the committed liabilities of the already approved schemes = Rs. 50.00 crore
- For meeting the balance committed liabilities, the Ministry of Urban Development would propose to provide a tentative outlay of Rs.47.50 Crore in the Annual Plan 2007-08 also.
- Till date

Total State share released by all the States	=	Rs.805.83 Crore
Expenditure incurred by all the States	=	Rs.1412.88 Crore

3.2.1.1 EVALUATION OF AUWSP

In order to evaluate the performance of the ongoing AUWSP, the Ministry has awarded in November, 2003, the work for undertaking Evaluation Study of Centrally Sponsored AUWSP in 62 towns in 24 States to the following Institutes:-

- National Environmental Engineering Research Institute, Nagpur,
- Centre for Environmental Studies, Anna University, Chennai,
- National Institute of Urban Affairs, New Delhi,
- Indian Institute of Public Administration, New Delhi.

Salient findings and recommendations of various Institutes on Evaluation Studies of AUWSP

- Raw water source in most of the schemes based on surface water and spring source are reliable. However, in case of tube well based schemes, sustainability upto design period may not be possible due to recurring droughts.
- There has been delay in completion of the schemes, mainly due to non-release of funds by the State Governments in time to the

implementing agencies, transfer of concerned officials in the States, delay in getting electricity connections etc.

- Population coverage with distribution system varies from 64% to 100%.
- Per capita supply in most of the towns has improved to 70 lpcd.
- Present hours of supply varies from 1 hour to 10 hours.
- Domestic water tariff has increased in most of the towns.
- Most of the towns are not able to recover full cost of providing water supply. Cost recovery ranges from 11% to 84%. Deficit is met by the State Agencies/ULBs as the case may be.
- Water supplied in the sampled towns was fit for drinking. There was no outbreak of water borne diseases in any of the towns.
- Lack of coordination among departmental agencies.
- There has been lack of community participation while implementing the schemes.

Recommendations:

- While handing over the completed schemes to the local bodies, adequate technical staff should be provided to ULBs to maintain the schemes.
- Floating population up-to 25% of the base year permanent population may be permitted to be considered for designing of the scheme.
- Raw water source reliability always may not be possible to ensure due to local / regional conditions. Therefore, flexibility should be allowed in the design period, so that schemes could be augmented.
- The State Govt. should ensure timely release of funds to the implementing agencies to avoid delay in completion of the schemes, hence cost overruns.
- The tariff should be increased periodically and the efficiency of collection should also be increased.
- Adequacy of staff should be ensured in ULBs in order to manage the system properly.
- Training programmes related to AUWSP for field engineers should be imparted periodically.

- All the concerned departments in the States should be sensitized about the programme, so that there is inter-departmental coordination for timely completion of the schemes.

The findings and recommendations have since been forwarded to the respective State Governments for necessary action.

3.2.2 CENTRAL SCHEME OF SOLID WASTE MANAGEMENT & DRAINAGE IN AIR FIELD TOWNS:

Bird hits are among the major causes of air crashes in our country leading to the loss of costly Defence Aircrafts and loss of invaluable lives of pilots. An Inter-Ministerial Joint Sub -Group constituted by the Ministry of Defence recommended to provide proper sanitation facilities, including Solid Waste Management and Drainage to overcome the bird menace in the following 10 towns having airfields of Indian Air Force :-

- | | |
|-----------------------|------------------------|
| 1. Gwalior (M.P.) | 2. Ambala (Haryana) |
| 3. Hindon (U.P.) | 4. Jodhpur (Rajasthan) |
| 5. Tezpur (Assam) | 6. Dundigal (A.P.) |
| 7. Sirsa (Haryana) | 8. Adampur (Punjab) |
| 9. Pune (Maharashtra) | 10. Bareilly (U.P.) |

The scheme has been approved by the Finance Ministry in November, 2002 and by the Full Planning Commission in October, 2003.

It is proposed to implement the scheme in 3 years with 100% grant from the Government of India towards the capital cost of the scheme. Subsequently, the concerned Urban Local Bodies would take over the scheme for continuing the same for day to day operations and maintenance. The O&M of the scheme would be borne by the respective Urban Local Bodies / State Governments

The Detailed Project Reports for all the 10(ten) towns have been approved from technical angle for execution.

Funds to the tune of Rs. 40.00 Crore have been released to 5 towns viz. Sirsa, Jodhpur, Pune, Gwalior & Bareilly, during 2004-05. Funds to the tune of Rs.55.00 crore available for the scheme during the year 2005-06 have been released to balance 5 towns as well as second installment to towns funded during 2004-05. Funds to the tune of Rs. 6.00 Crore have been sanctioned to Hindon (Gaziabad) during 2006-07 till September as second installment.

All the schemes are under execution. The projects for Sirsa, Jodhpur, Pune, Gwalior, Tezpur, Adampur, Dundigal and Ambala are being executed by National Buildings Construction Corporation Ltd. (NBCC) and the projects for Hindon & Bareilly are being executed by Construction & Design Services (C&DS), Uttar Pradesh Jal Nigam, Government of Uttar Pradesh.

The projects are at different stages of execution and are expected to be completed in the Tenth Plan itself.

3.2.3 PHE TRAINING PROGRAMME:

Development of trained manpower is one of the thrust areas of the Ministry. The Central Public Health and Environmental Engineering Organization, Ministry of Urban Development has been making efforts to promote PHE Training Programme since 1956. The magnitude of such activities has increased considerably over the years. In order to cater to the needs of various Water Supply & Sanitation Departments (water utilities) the following training programmes have been introduced and are being conducted through research & academic institutes and field departments:

- (i) Post Graduate Course in the PHE/ Environmental Engineering. The duration of the PG course is two years. There are 11 recognized institutes where in-service engineers are sponsored for undergoing the course.
- (ii) Short Term Course in PHE/ Environmental Engineering in two institutes. The duration of the course is three months.
- (iii) More than 60 Refresher Courses on various aspects of design, construction, operation and maintenance of water supply and sanitation facilities conducted by 20 recognized academic & research institutes and field departments. The duration of the course vary from one week to four weeks.

Allocation and Expenditure for PHE Training Programme during the last four years and anticipated expenditure during 2006-07 are given below:

(Rs. in lakh)			
S.No.	Year	Allocation/BE	Expenditure
1.	2002-2003	100.00	82.15
2.	2003-2004	50.00	110.40
3.	2004-2005	50.00	87.70
4.	2005-2006	50.00	96.64
5.	2006-2007	100.00	100.00*

* Anticipated.

Number of personnel/in-service engineers trained in the above mentioned courses during the last four years and number of personnel expected to be trained during 2006-07 are given below:

Sl. No.	Year	No. of Personnel trained
1.	2002-2003	1315
2.	2003-2004	1293
3.	2004-2005	1202
4.	2005-2006	1250*
5.	2006-2007	1300**

* Tentative as information from some institutes is awaited.

** Target to train personnel.

3.2.4 RESEARCH AND DEVELOPMENT PROJECTS PERTAINING TO WATER SUPPLY & SANITATION

THE MINISTRY SPONSORS APPLIED RESEARCH AND DEVELOPMENT PROJECTS TO VARIOUS RESEARCH AND ACADEMIC INSTITUTIONS IN THE FIELD OF WATER SUPPLY, SANITATION AND SOLID WASTE MANAGEMENT. THE FOLLOWING ARE THE RESEARCH PROJECTS COMMENCED DURING 2002-03 AND COMPLETED.

S.No.	Title of the Project	Name of the institute conducting the research studies	Status
1.	Impact of on-site Sanitation on the quality of Ground and Surface water sources	NEERI, Nagpur	Completed
2.	Status of Water Supply, Sanitation and Solid Waste Management in Urban Areas	NIUA, New Delhi	Completed
3.	Surveillance of Drinking Water Quality in 23 selected cities/towns in India	NEERI, Nagpur	Completed
4.	Development of windows based computer software for designing of water distribution network, sewerage network, pumping mains.	IIT, Delhi	Concluded

The allocation and expenditure for Research & Development during the last four years and anticipated expenditure during 2006-07 are given below:

S.No.	Year	(Rs. in lakh)	
		Allocation/BE	Expenditure
1.	2002-2003	30.00	20.85
2.	2003-2004	25.00	5.25
3.	2004-2005	25.00	25.00
4.	2005-2006	25.00	-
5.	2006-2007	50.00	35.00*

* PROVIDED NEW RESEARCH STUDY IS APPROVED.

3.2.5 MANAGEMENT INFORMATION SYSTEM

In order to have a strong database for planning, taking policy decisions and mid-course corrections, collection of information regarding physical and financial status of urban water supply and sanitation schemes implemented/ being implemented, in pipeline under the State Plan, external funding etc. is necessary. With this in view, the Planning Commission had made budgetary provision in the Ministry's budget for MIS right from the 7th Five Year Plan including the 10th Plan. However, the proposal initiated by the Ministry in the past for creation of exclusive MIS cells at the Central and State levels could not materialize because of various factors. To collect & disseminate information in an effective way, it is essential that MOUD provides financial support for creation of MIS cells for collection of data in urban water supply and sanitation sector. For that matter, the Department of Drinking Water Supply of MORD has created a strong data base for the rural water supply and sanitation sector by creating separate MIS cells at the Central and State levels with Central financial support. This should be suitably replicated for urban sector also.

However, the CPHEEO, MOUD has initiated action for creation of 'CPHEEO WEBSITE' which provides a platform for data collection and information exchange through electronic media.

3.3 GOVERNMENT INITIATIVES ON REFORMS IN URBAN SECTOR

3.3.1 ROLE OF URBAN LOCAL BODIES

Quite often, multiplicity of agencies and overlapping responsibilities are the reasons for ineffective and poor performance of operation and maintenance. In the light of 74th Amendment of the Constitution, the role and responsibility of the ULBs have increased significantly in providing these basic facilities to the community on sustainable basis. The new Amendment has enabled ULBs to become financially and technically sound to provide these basic civic amenities to the community.

3.3.2 MODEL MUNICIPAL LAW

As per the Constitution (74th Amendment Act), 1992, the urban local bodies (ULBs) have been delegated with sets of responsibilities and functions. But they are not supplemented with adequate financial resources. As a result, they are not able to perform their assigned functions in an efficient and effective manner. They are also not able to fix the rates of user charges and are heavily dependant upon the higher levels of Governments for grants.

Keeping this in view, Ministry of Urban Development has initiated the urban reform agenda. This agenda has been supplemented with the formulation of the **Model Municipal Law**, which intends to assist urban local bodies in the areas of accounting reforms, resource mobilization, levy of user charges and entry of private sector participation. Ward Committees have to be constituted and they have to be consulted / involved in the decision making process with regard to provision of basic amenities.

The Model Municipal Law has specific provisions on financial management of municipalities, municipal revenue, urban environmental infrastructure /services and regulatory jurisdiction. The Model Municipal Law developed by the Ministry is based on a set of policy postulates that offer guidelines for State Governments to adapt to their specific conditions. The Model Municipal Law has been circulated to all State Governments for follow up action/implementation.

3.3.3 MUNICIPAL ACCOUNTING REFORMS

Consequent to the 74th Constitutional Amendment Act, the States are expected to devolve responsibility, powers and resources upon the Urban Local Bodies (ULBs) as envisaged in the Twelfth Schedule of the Constitution. This has brought in its wake the need to strengthen the accounting and reporting systems in these civic bodies.

Most of ULBs prepare their accounts following the cash based accrual system. So, the true and fair position of assets and liabilities of the ULBs cannot be ascertained.

Realizing its importance, the 11th Finance Commission had set up a Task Force, which in its report had recommended for introduction of **an accrual system** of accounting implementation of improved accounting policies and use of model budgeting and accounting formats by ULBs. The report was considered in the Ministry of Urban Development and circulated to all States for implementation so that municipal bodies would be able to manage their financial matters in an efficient and effective manner and enter into public-private partnership and also have access to the domestic capital market. Therefore, this Ministry has been impressing upon the States/UTs for implementation of the Task Force Report.

3.3.4 PRIVATE SECTOR PARTICIPATION

Though privatization of water supply and sanitation sector could not make significant progress as of now, there is substantial potential and urgent need for the same in near future. By and large, the tariff rates being charged from the consumers are very low and there is a general reluctance for enhancing the same.

Under the circumstances, without aiming at full cost recovery, privatization cannot be a successful proposition. It is felt that it would be easier and convenient to introduce privatization in new areas where the private companies will have a free hand to take up the task of planning, designing, execution, operation and maintenance, billing and collection including tapping of raw water from the selected source either on BOO or BOOT basis. The successful award of Chennai service contract for operation and maintenance of 61 sewage pumping stations in the city and Rajkot and Surat example of contracting out a number of municipal services to private firms as well as community groups are a few examples to infuse confidence in private entrepreneurs.

Chennai service contracts

In Chennai, formerly Madras, the operation and maintenance of 14 sewage pumping stations was contracted out in 1992. The success of this contract led to further contracting out of an additional 61 pumping stations, on a mixture of two and three-year contracts. In addition, the operation and maintenance of four water boreholes has been contracted out and it is planned to extend this to a new water treatment plant and a new sewage treatment plant. The contracted-out stations have achieved cost savings of 45-65%, compared to the Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB). This has been achieved without any compulsory redundancies, instead, CMWSSB has re-deployed excess staff to vacancies resulting from retirement elsewhere within the organization.

Contracting out in Rajkot

Rajkot, like many other cities in India, has contracted out a number of municipal services to private firms as well as community groups. The most prominent of these are solid waste management, and maintenance of street lights, public toilets and gardens. Other services include recreation services and afforestation. While this has led to some cost savings, (estimated at 5 percent of the total revenue expenditure on service provision), the major purpose has been rationalization of labor management within the Corporation. This has been done without any effort at retrenchment (which, in any case, would be impossible given the labor laws) but by freezing new recruitment for existing vacancies. Contracting has also helped the Corporation to increase service coverage for essential services and provide extra services (like aviary, aquarium and afforestation) which may not have been possible otherwise. In case of neighborhood gardens, maintenance has been handed over to local residents with positive results. RMC has been careful in controlling the extent of contracting out to ensure the public department has the capacity to provide essential services in the event of service disruption. More studies are necessary to assess the effect of competition on costs and service performance.

Success in solid waste management : The case of Surat

The outbreak of plague-like disease in Surat, in 1994, brought solid waste to the public's attention. The contrast between the scrupulously clean Indian homes and the heaps of rubbish and filth commonly found in the urban public spaces, was much discussed in the newspapers of the day. Urban filth was deemed to be bad for both public health and the urban economy, where the disease was present.

Accordingly, the situation created an intense political will to clean up the city. Money and professional management was mobilized on a PSP/PPP bases and there was a major cleaning of the urban areas. Today, Surat is one of the cleanest cities in India, indicating how rapidly and effectively this can be achieved if political will and the organization are present. The only question yet to be answered, is that of sustainability. This concern underlines the need for systematic changes to establish incentives for management to perform, even after the time for political profit has dissipated.

Even in the existing systems, service and management contracts for tapping of raw water, its conveyance, treatment and supply in bulk to the local bodies, treatment of wastewater, its reuse for various beneficial purposes, maintenance of pump houses, collection, transportation and hygienic disposal of municipal solid waste etc. can be entrusted to private agencies. With a view to assist the State Governments and ULBs; for initiating Public-Private Partnerships, detailed guidelines have been formulated and widely circulated by the Ministry of Urban Development for necessary action at State and ULBs level.

3.3.5 FISCAL INCENTIVES BY GOVERNMENT OF INDIA:

In the recent years, the Central Government has provided some fiscal incentives to help mobilize resources for urban infrastructure. These include permitting issuance of tax-free Municipal Bonds, broadening the definition of infrastructure to include water supply and sanitation, removing restriction on foreign direct investment in urban infrastructure, IT exemptions and tax holidays etc. Ahmedabad and Brihanmumbai are a few examples of floating municipal bonds for mobilizing resources for urban infrastructure.

Credit rating of municipal bonds in India

The credit rating of municipal bonds in India is a recent phenomenon. Credit Rating and Investment Services of India Ltd. (CRISIL), for the first time, rated the proposed Rs.1,000 million general obligation bond issue of Ahmedabad Municipal Corporation in February 1996 at A+. It has also rated Brihanmumbai (Bombay) Municipal Corporations' proposed Rs. 250 million bond issue with the rating AA-. CARE, another Mumbai based credit rating agency, has given a rating of 'AA' to the proposed Rs. 2000 million bond issue of Pune Municipal Corporation. The first rating of Ahmedabad Municipal Corporation has provided the impetus to this route. Another 10 to 15 cities are in the process of getting their potential bonds rated.

Some of the rating agencies in India have developed the methodology for rating these bonds, supported under the Indo-USAID project on Financial Institutions Reforms and Expansion (FIRE). The methodology includes aspects related to financial health of the local authority, its management capacity and efficiency, service effectiveness, the city's economic base as well as the political risks. This comprehensive approach will help to generate awareness at the local level about an agency's own performance and its influence on its borrowing cost in the market. Concerns related to the accounting systems and management efficiency have already begun to emerge from such analysis.

regulatory authorities are presently in operation in UK, USA, Jamaica, Ghana etc. and the results are very encouraging in improving the delivery mechanism while maintaining the quality and quantity of service.

3.3.6 INTER-MINISTERIAL NATIONAL LEVEL TASK FORCE ON UNIVERSAL SANITATION IN URBAN AREAS:

As a follow up of the recommendations of the Workshop on Provision of Universal Sanitation in Urban India held in Pune during March, 2004, an "Inter-Ministerial Task Force on Universal Sanitation in Urban Areas" has been constituted under the Chairmanship of Joint Secretary in charge of the Urban

Water Supply and Sanitation, Ministry of Urban Development, CPHEEO and Members from Planning Commission and other Ministries and convener is the Administrative Staff College of India and WSP, South Asia. The aim of the task force is as follows:

- 1) To review the current situation in regard to provision of sanitation facilities in the country including mechanism for information collection and bench marking.
- 2) Review of current National and State Level policies and programme for urban sanitation.
- 3) Identify the challenges leading to identification of policy alternatives to take into account existing programmes of Ministry of UEPA such as urban Low Cost Sanitation, Slum Sanitation Programme etc.
- 4) Identification, documentation and dissemination of good practices,
- 5) Information Education and Communication
- 6) To develop performance measurement and evaluation systems for the programme
- 7) Explore the possibility of private sector participation in urban sanitation sector.

The Task Force had held the first meeting in Delhi and based on the deliberations made, constituted two sub-committees with a mandate to develop "National Urban Sanitation Policy" and "Communication Campaign Strategy for Open Defecation Free Urban Areas".

Community-based sanitation in low income areas -The Orangi Pilot Project, Pakistan

Under the Orangi Pilot Project (OPP), the community organizers and research professionals have assisted communities in Karachi's largest squatter settlement to construct and pay for sanitary toilets, underground sewer lines and collector drains, thereby improving sanitation, health and the community's self esteem. The scale of operation (over 600,000 poor people in Karachi have been covered), investment resources contributed by the community (entire costs of internal networks), and the nature of services offered by the OPP team (which amounted to less than 15 percent of the total costs) are special features of the program.

The role of OPP staff has been to explain the benefits of sanitation, share information on alternatives and provide technical assistance. Social organizers identify a "Lane Manager" who collects contributions, manages construction and maintains accounts. Lane Committee elect Neighborhood Committee (typically around 600 families) who manage the secondary sewers. The external sewers in the main trunk are the responsibility of the municipal authority. The OPP approach has also been used in other parts of Pakistan, with lesser degree of success due to problems of inadequate coordination between the community and slow implementation of required new municipal internal and external procedures

3.3.7 JNNURM and UIDSSMT:

With a view to provide reform link infrastructure facilities in the urban areas, the Gol has launched the two new programmes namely

(i) **Jawaharlal Nehru National Urban Renewal Mission (JNNURM)** covering 63 cities with population above one million as per 2001 census including 35 metro cities and other State capitals and culturally important towns and other important towns such as state capitals, pilgrimage centres etc.

(ii) **Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT)** for the remaining 5098 towns having population less than one

million to cover all the towns as per 2001 census, irrespective of the population criteria.

The aforesaid programmes are reform oriented and the State Governments are eligible for implementing infrastructure facilities such as water supply, sewerage, drainage and solid waste management etc. in all the cities and towns. Funds under both these schemes will be accessed by the Urban Local Bodies based on implementation of certain mandatory and obligatory reforms.

Under these programmes, out of eligible components, water supply sanitation including drainage and solid waste management schemes have been accorded high priority with a view to provide these basic amenities to all the people including the urban poor. Under the circumstances, unless these basic amenities are provided to the 100% population on a sustainable basis in the project towns, schemes such as roads, flyovers, bridges (ROB, RUB etc) may not be considered by Government of India.

The ongoing JNNURM and UIDSSMT, one of the most prestigious programmes of GOI, are envisaged for implementation over 7 years period starting from 2005 to 2012 with a tentative out lay of Rs.1,00,000 crore, which includes contribution of Rs.50,000 crore to be made by the States and ULBs.

4. ELEVENTH FIVE YEAR PLAN APPROACH

4.1 APPROACH

Improve the urban environment through creation of basic infrastructure like water supply, sanitation etc. in order to bring down the rate of morbidity and mortality, and financial losses by way of controlling water borne diseases, which will facilitate enhancement of productivity and overall economic development of the country.

Inadequate availability of drinking water, improper treatment of sewage, uncollected solid waste etc. severely affect the quality of life, urban environment and lower the investment climate since India cannot expect to make a favorable impression on foreign investors and international business communities if India's cities / towns appear to be falling behind those in other developing countries. The 11th plan aims at tackling all such urban issues with a view to provide safe drinking water and adequate sanitation facilities to the entire urban population leading to improvement in urban environment by the end of 11th Plan.

4.2 COVERAGE TARGETS

It is proposed to achieve the following coverage targets by the end of the Eleventh Five Year Plan i.e. 31.3.2012

Urban Water Supply	100% population coverage
Urban Sewerage and Sanitation	100% population coverage (which includes 70% population to be provided with sewerage and sewage treatment and 30% population with low cost sanitation, septic tanks etc).
Solid Waste Management	100% population coverage with appropriate Solid Waste Management facilities.
Drainage	100% population coverage to provide comprehensive drainage system in towns / cities wherever needed to help controlling flooding of urban centres. due to rainfall and spread of sewage over streets.

In light of Millennium Development Goals (MDGs), of which India is one of the signatories, the above targets are required to be achieved.

4.3 STRATEGY FOR IMPLEMENTATION OF PROGRAMMES

Following strategy for implementation of ongoing schemes may help to achieve the desired objectives:

- The State Governments and Urban Local Bodies may be required to formulate city specific development plans giving due emphasis on provision of basic amenities such as water supply, sewerage, sewage treatment, low cost sanitation, solid waste management and drainage facilities to the entire community under various programmes such as JNNURM, UIDSSMT etc.

Financial Operating Plan and City Investment Plan should be formulated by Urban Local Body by duly prioritizing the schemes like water supply, sewerage, sanitation, roads etc. Clear proposals should be prepared with details of total requirement of funds, possible sources for mobilization of funds, agency responsible for implementation of the schemes, their O&M, etc. Also, measures such as ring fencing of funds, maintaining the separate accounts for WSS sector, introduction of commercial accounting based on accrual basis by the ULBs etc.

- Out of the available funds a road map for flow of funds for implementing various schemes on year to year basis also needs to be developed so that projects are implemented smoothly during the implementation period.
- Under JNNURM / UIDSSMT, as of now, many States are approaching for implementation of projects in parts, either for water supply or for sanitation, which may not deliver the desired results.
- Since, water supply, sewerage, drainage and solid waste management in a city are more or less linked with each other and for perceptible improvement in urban infrastructure and environment, it is necessary that the State Governments/ULBs may prioritize the cities and towns and prepare comprehensive DPRs in an integrated manner for provision of water supply, sewerage, drainage and solid waste management so that desired goals are achieved including improvement of overall urban environment.
- Preference may be given to projects pertaining to unaccounted for water management through water auditing and replacement of old and dilapidated pipelines, refurbishment of pumping machinery and equipment through energy audit, etc. for conserving the precious treated water and to reduce the O&M expenditure and enhance the revenue base.
- Cities / towns having water scarcity and water quality problems should be given top most priority by the State Governments in the selection process.
- Dedicated Project Implementation Cell should be created within the municipality for smooth implementation of projects. At no stage, the staff involved in O&M of the project should be additionally entrusted with the responsibility of project implementation.

4.4 MECHANISM FOR MONITORING PROJECT IMPLEMENTATION / EVALUATION OF BENEFITS.

A credible mechanism is needed for to assess the outcomes of project implementation by engaging expert institutes/ organizations/ retired officers in the field. It is essential to properly address the shortcomings noticed during project implementation to maximize the benefits. The completed projects need to be properly evaluated to assess the outcome of the project implementation vis-à-vis the envisaged benefits at the time of DPR preparation.

Also, at present there is no mechanism to evaluate the effect of water supply and sanitation activities on reduction of infant mortality, morbidity and water

borne/ water related diseases in urban areas. With lot of impetus from Government of India to implement water supply and sanitation projects in all urban areas, now it becomes essential and also feasible to develop a data base on the reduction in incidence of infant mortality, water borne and water related diseases. The information collected so can be analyzed to assess the impact of implementation of such projects on the public health. Provision of adequate laboratory facility in the ULBs would help in regularly monitoring the water quality at various strategic locations of the city distribution system, which is very much essential to check the spread of water borne/ water related diseases.

4.5 SUSTAINABLE O & M MECHANISM FOR CREATED INFRASTRUCTURE:

Inadequate attention to operation and maintenance of the assets created leads to the deterioration of the useful life of the systems up to 50% to 60% necessitating premature replacement of many components. The key issues that contribute to the poor operation and maintenance are as follows:

- Lack of funds and inadequate revenue generation
- Inadequate data base on O&M.
- Multiplicity of agencies and overlapping of responsibilities.
- Inadequate training of personnel and lesser attraction for maintenance jobs, investigation and planning,
- Lack of performance evaluation and monitoring,
- Inadequate emphasis on preventive maintenance,

It has been observed that about 30% to 40% of the total O&M cost goes towards establishment and 40% to 50% is incurred on power and the balance is used for consumables, repairs, etc. and hardly any funds are left for preventive maintenance of infrastructure. To augment the resources and improve the service levels of consumers; it is important that availability of funds for preventive maintenance of infrastructure may be ensured. In this respect, Public Private Partnerships (PPP) may be encouraged in the functions of operation & maintenance, distribution and billing and collection of revenue from consumers. At the same time, to improve the reliability of water supply and reduce the wastage occurring due to intermittent supply, the options of providing 24/7 water supply, water audit, energy audit and bench marking etc. should be implemented in some selected towns in each State. This would help to spread positive message and build confidence among consumers/ utilities.

States need to expedite the transfer of responsibility for O&M of water supply and sanitation schemes to ULBs including devolving power to revise tariff on their own, as per requirements, for sustainability of the schemes. Strategy to effectively equip and ensure the involvement of ULBs in creating and maintaining such infrastructure is the need of the hour and they may be made independent from the mercy of State Governments for fund requirements.

At present, a lot of thrust has been given to this sector in creating infrastructure through JNNURM / UIDSSMT. However, in most of the States / ULBs because of their poor financial health and lack of trained technical manpower, operation and maintenance of the infrastructure/ assets created is a

cause of concern and hence they may become defunct/ unfit for use, without accruing the desired benefits to community. Preventive maintenance is absent in most of the ULBs. Thus, the funds invested in creation of infrastructure are likely to fail to fulfill the desired goals. Therefore, all possible steps must be taken for putting in place suitable mechanism for sustainable O & M so that the infrastructure created under JNNURM / UIDSSMT is maintained effectively and the envisaged benefits accrued during the design life of the project. For this, adequate financial resources are required to be generated through water tax, realistic user charges, connection fees, development charges, cess etc.

4.6 INFORMATION, EDUCATION AND COMMUNICATION (IEC)

Peoples' mindset towards water supply and sanitation services has been solely responsible for slow development of this sector. In the past, provision of water supply and sanitation services has been deemed as the responsibility of Government/Urban Local Bodies. This has primarily proved to be the bottleneck in bringing in reforms to this sector and hence private sector participation. Due to poor services rendered by ULBs because of resource crunch, people suffer on account of various diseases and loss of man days. Unless, people are made aware of the benefits of safe drinking water supply, sanitation and water conservation they may not be able to effectively contribute towards maintenance and upkeep of the systems. As such, Information, Education and Communication (IEC) are a must for creating public awareness.

In this regard, it is very much essential for the Ministry of Urban Development, Government of India to produce short films, advertisements, picture posters etc. for audio and video publicity through TV and print media on various aspects of water quality, importance of safe drinking water, its handling and storage, water conservation in households, use of sanitary toilets, storage of dry and wet garbage and its hygienic disposal, vector control, personal hygiene etc.

Adequate thrust needs to be given to create awareness among people regarding user charges and polluter-pay concept in case of services rendered in water supply and sanitation.

4.7 CONSERVATION OF WATER

To reduce the stress on fresh water supply sources, which are diminishing day by day, measures to promote rain water harvesting and artificial recharge of ground water and recycle and reuse of tertiary treated wastewater for non potable uses need to be given due emphasis.

Like wise, reduction of unaccounted for water would also help in conservation of treated water. Several pilot studies conducted in the country have shown water losses in the cities to be in the range of 20% to 50% of the total flow in the system and maximum leakage caused in the house service connections.

In India, where water supply is by and large intermittent (supply hours ranging from 3 hours to 10 hours), during non-supply hours when the system is not under pressure, external pollution is got sucked into the system at the points of leak causing health hazards.

Therefore, there is need for systematic approach for reduction of wastage of water through leaks and preventive maintenance should form an integral part of O&M on a regular basis. If such measures are taken by the water supply agencies, then there may not be any immediate need to take up augmentation scheme and it will also help increase revenue to make the system self-sufficient. The DPRs being submitted by the State Governments / ULBs under JNNURM / UIDSSMT should invariably include all the aforesaid water conservation techniques and implement them without fail.

4.8 PRESERVATION OF DRINKING WATER SOURCES/ WATER BODIES:

To preserve the fresh surface water sources for drinking and other allied purposes, it is essential to ensure that all industries suitably treat their effluents by setting common effluent treatment plants (CETPs) and then only discharge into water bodies. Similarly, municipalities must treat the municipal sewage before discharging it to water bodies. All municipalities need to put in place comprehensive solid waste management system to stop pollution of water bodies around the town. Moreover, indiscriminate use of insecticides and pesticides should be avoided in and around the water bodies and instead it is advisable to use organic compost/manure to the possible extent.

To preserve the fresh surface water sources, States need to prioritize cities/towns for implementation of sewerage projects/ drainage / solid waste management projects in the urban areas, in order to help reducing the level of pollution in water bodies.

Also, to review the impact of industrial, agricultural and municipal waste on drinking water sources, it is essential to work in close coordination with Central Pollution Control Board (CPCB), and State Pollution Control Boards (SPCBs), who are monitoring the pollution of surface water bodies as result of discharge of untreated industrial effluent / municipal sewage.

4.9 INTEGRATED MANAGEMENT OF WATER RESOURCES:

Majority of people now realize that water resource is not unlimited and overcoming scarcity of water is a big challenge for policy makers. In this respect, the Ministry of Water Resources has gone deeply into the matter and has brought out comprehensive **Report of National Commission for Integrated Water Resources Development**, which contains extensive details of water potential, in various regions of the country, its use by various stakeholders, legal and institutional aspects involved in its management. As per the report, it has been assessed that the requirement of water for domestic use of both urban and rural areas is expected to grow from the present level about 5% to about 9% by the year 2050. The National Water Policy, April 2002 has assigned overriding priority for drinking water among other uses of available water. Therefore, the States on their part have to formulate State Water Policies on the lines of National Water Policy, 2002 and implement the same in letter and spirit. Likewise, recommendations of the Report of National Commission for Integrated Water Resources Development have to be put to real use in policy / strategy for water resource management

It is understood that the Ministry of Water Resources, GOI do not have city-wise data as of now. Therefore, efforts should be made by the Ministry of Water Resources (CWC, CGWB) and State Governments, to generate reliable town-wise data on availability of ground water, surface water, water quality status and requirement of water for drinking and allied use for next 30-50 years, on GIS platform. This would help in analyzing the reliability and availability of source and better formulation of project proposals. The aforesaid software would also help State Governments and departments to comprehensively plan the reliability and availability of water sources for the towns for next 30 years or so.

The Ministries of Water Resources and Urban Development should take up this exercise as a joint study for identifying availability of water in various basins, indicating scarcity zones, surplus water zones, including transfer of water to deficit zones. This would help in ensuring better national water resources planning, consumptive use of surface and ground water and integrated management of water resources at national level. This will go a long way in optimally using scarce water resources in the country and ultimately form part of a strong data base.

4.10 SETTING UP MIS CELLS TO BUILD DATA BASE AT NATIONAL AND STATE LEVEL.

A strong data base is a sine qua non for identifying the problems / constraints in current policies, programmes and schemes and to help suitably modify and orient the policies / programmes for achieving the desired goals for these sub sectors. Evolving suitable mechanism to have strong data base for all cities / towns in regard to coverage of urban population with water supply, sewerage, drainage and solid waste management facilities is most essential in the wake of large number infrastructure projects are being considered for sanction and to help planning them realistically for development of this sector.

To review the existing infrastructure, administrative and organizational set up both at Centre and State for planning, design, appraisal, implementation and operation & maintenance of water supply and sanitation projects, creation of Central level MIS cell in CPHEEO as well as MIS cells in States connected through CPHEEO website would help achieve the goals of providing water supply and sanitation facilities to maximum number of urban population. The cells would be responsible for collection, analysis, processing and updating of data for the web site also. This would help in building a strong data base which would be available for all those who are interested in the field including policy makers, stake holders, academicians etc. and would help in analyzing the situation and plan accordingly for overall development of this sector.

4.11 PHE TRAINING PROGRAMME

For success of any programme and its sustenance, personnel with requisite qualification and experience, is a must. In the field of Public Health / Environmental Engineering, this requirement is much more important as it involves health of the community and improvement of quality of life, which would facilitate post developmental activities.

Keeping this in view, the Ministry of Urban Development has been sponsoring training programmes for the benefit of in-service engineers working in Public Health Engineering Departments and ULBs. In order to further step-up this activity to meet ever increasing demand for the same in the 11th Five Year Plan, it is proposed to recognize a few more premier institutions for conducting Post Graduate courses to increase the intake capacity. It is also proposed to identify 10 more academic and research institutions to organize about 70 Refresher Courses of duration ranging from 1-4 weeks to train about 1400 junior, middle, senior level Public Health / Environmental Engineers annually on a variety of subjects. Efforts will also be made to conduct Refresher Courses on subjects such as water and energy conservation, waste water management, re-use and re-cycling of treated effluents, financial management, solid waste management etc. to benefit various personnel working in ULBs.

Though Municipal Solid Waste Management Handling Rules-2000 have been notified a few years back, several ULBs are yet to fully understand their duties and responsibilities for successful implementation of solid waste management programme in their respective municipalities / corporations. Special emphasis shall be given to run short term programmes for sanitary workers, supervisors, health workers and other personnel involved in collection, segregation, transportation, processing of waste and hygienic disposal of garbage. The infrastructure which are being developed by various ULBs / State Departments for drinking water supply, sewerage, sanitation, drainage, SWM under the recently launched JNNURM & UIDSSMT programmes would require more number of qualified and trained manpower for better planning, designing, implementation and O&M of water supply and sanitation schemes.

4.12 RESEARCH AND DEVELOPMENT

Research and Development is a continuous process to find technically and financially viable solutions on various field problems being faced by State Public Health Engineering Departments and ULBs in the field of water supply, sewerage, low cost sanitation, solid waste management etc. As such, the Ministry of Urban Development would continue to sponsor research and development study on various applied research subjects / topics in collaboration with leading research institutes in the country. At the same time, on the basis of results obtained on various applied research subjects, demonstration-cum-pilot plants may also be set up with the help of promising ULBs to demonstrate the technology / process for replication of same in other parts of the country.

It is proposed to take up research studies on computer aided design of water supply, sewerage systems; decentralized waste water treatment, drainage and solid waste management, re-use & re-cycling of wastes, performance indicators, benchmarking, willingness to pay, full cost recovery and privatization aspects etc.

4.13 ROLE AND INVOLVEMENT OF EXTERNAL SUPPORT AGENCIES:

Presently, the States are implementing water supply, sewerage and solid waste management projects with the funds from both internal and external funding agencies. However, the financial assistance provided by the external funding agencies is hardly about 5% of the total funds provided under State / Central sector. The assistance from external support agencies like WHO, UNDP, World Bank and bilateral agencies may be allowed to continue on case to case basis when the ULBs / States seek such expertise and assistance.

At present, most of the donor agencies take 2-3 years to finalize the project appraisal for funding and project implementation. In light of launching of JNNURM / UIDSSMT, it becomes essential that the external donor agency may cut short their processing/ decision making time to less than a year, so that projects planned under JNNURM / UIDSSMT may be able to seek the financial and technical support of the external donor agency without hampering the actual progress of project implementation. Moreover, in any of the urban areas in the country, opted by external funding agency for providing financial assistance, the approach adopted under JNNURM guidelines has to be followed invariably.

4.14 CONVERGENCE OF PROGRAMMES OF DIFFERENT MINISTRIES OF GOI WITH SIMILAR OBJECTIVES

4.14.1 LINKING NRCD PROJECTS OF M/O E & F WITH THE PROGRAMME OF MOUD

Different Central Ministries are providing funds for creation of infrastructure in water supply and sanitation, solid waste management sub-sectors, which are of similar nature. This sometimes leads to over lapping of duties and duplication of works to some extent. As per Government Business Rules, Ministry of Urban Development is the nodal Ministry at the Central level for planning, designing and assisting State Governments and ULBs in provision of safe water supply, sanitation (sewerage, sewage treatment, low cost sanitation) solid waste management and drainage facilities in urban areas of the country.

M/o Environment and Forests under National River Conservation Plan (NRCP) has been implementing projects for interception and diversion of waste water by laying trunk mains/ pumping waste water along the banks of rivers and construction of sewage treatment plants for treating sewage effluents. The funding pattern under NRCD is 70: 30 between the Centre and States. Creation of the aforesaid infrastructure is only along the side of river / lakes. But they do not comprehensively address the sanitation problems in totality. In other words, unless the entire city is provided with sewerage system to enable collection and conveyance and treatment of the wastewater as well as effective solid waste management, pollution control cannot be achieved by implementation of mere interception and diversion projects as being done by the NRCD at present.

Recently launched Jawaharlal Nehru National Urban Renewal Mission (JNNURM) is a reforms linked programme, and implementation of infrastructure projects is based on City Development Plans (CDPs) which lay emphasis on self sustainability of schemes. 63 towns are proposed to be covered under the said

programme which includes million plus cities, all State Capitals and the heritage towns / cities.

Similarly, under the recently launched Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) all the remaining 5098 towns in the country are being covered for development of infrastructure which include water supply, sewerage, sewage treatment, low cost sanitation, solid waste management, drainage and improvement of urban environment etc.

Under the Programmes, namely JNNURM and UIDSSMT, a holistic approach is being adopted to provide basic amenities such as water supply, sewerage, sewage treatment, low cost sanitation, solid waste management and drainage and urban environment improvement on a "whole town basis" in the approved project towns and cities. Due to said approach of the Ministry of Urban Development, pollution control measures will be fully taken care of, which would eventually result in cleansing of various water sources, namely, rivers and lakes in different parts of the country.

Under the circumstances, it appears that programmes operated by Ministry of Environment & Forests through NRCD may be conveniently merged with JNNURM and UIDSSMT of the Ministry of UD to provide better solution to the problem of pollution control as well as provision of basic services in all the cities and towns of the country. If separate programmes are allowed to continue with the Ministry of Environment & Forests and the Ministry of Urban Development, it is likely that there would be duplication and overlapping of responsibilities / efforts and thin spread of valuable financial resources which may result in increase in overhead costs at Govt. of India level, without yielding envisaged objectives. As such, it is recommended that the programmes of NRCD may be transferred to the Ministry of Urban Development during the 11th Five Year Plan.

With the launching of JNNURM and UIDSSMT, the towns on the banks of rivers / lakes may be prioritized, and comprehensive sewerage system, low cost sanitation and solid waste management system may be planned and executed for each town / city, so as to control river / lake pollution problem in different parts of the country.

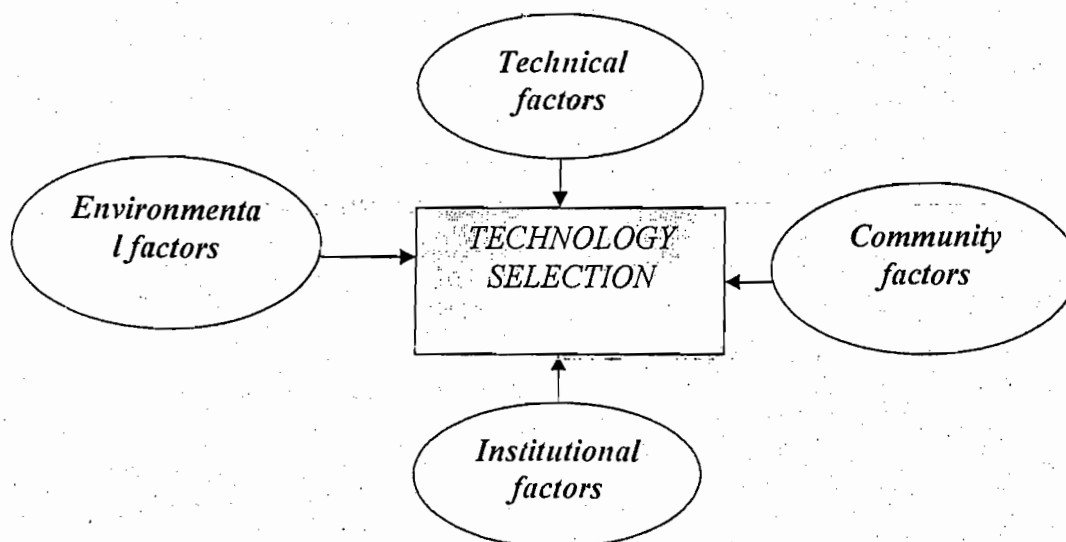
4.14.2 LINKING OF BUDGET PROVISIONS OF MINISTRY OF URBAN DEVELOPMENT AND MINISTRY OF DONER MEANT FOR NORTH EASTERN STATES AND SIKKIM WITH JNNURM/ UIDSSMT

The 10% lump sum pool of resources of Ministry of Urban Development and Non Lapsable Central Pool of Resources (NLCPR) under Ministry of DoNER meant for North Eastern States and Sikkim, which provides funding for creation of urban infrastructure including water supply, sewerage, drainage and solid waste management on the same pattern of funding as for JNNURM / UIDSSMT i.e. 90: 10 basis. These programmes may be integrated with JNNURM / UIDSSMT projects, so that duplicity in implementing the projects with different Ministries may be avoided and States can adhere to implementing a comprehensive project based on City Development Plans.

4.15 SELECTION OF TECHNOLOGY

The technology selection process will depend greatly on the basic strategy applied by planners as well as the general trends that are emerging in the water and sanitation sector. A basic principle followed is the need to involve communities right from the start in the selection of technologies. Hence, agencies, communities and users should work together as partners, and plan subsequent activities in mutual agreement. This prerequisite is particularly important in the context where users and communities, both men and women, are more and more endowed with the responsibilities of operation, maintaining and managing their water supply systems.

Identification and development of less capital intensive technologies and implementation of such technologies which are cost effective and not much energy intensive are priority areas. A technology should, as much as possible, match people's needs, expectations, preferences and cultural habits. It should be convenient, manageable, maintainable and affordable. Selection of technology should invariably consider the following four factors.



APPROPRIATE LOW COST AND AFFORDABLE TECHNOLOGY OPTIONS IN WATER SUPPLY, SEWERAGE AND SOLID WASTE MANAGEMENT

Emphasis should be given on low cost technology options with less power dependent and minimal O&M requirements suitable to Indian environment for water supply and treatment, sewerage and sewage treatment and solid waste management. To provide necessary guidance to public health engineers across the country, CPHEEO has prepared and published the following Manuals, which are technical guide books for the help of field engineers:

1. Manual on Water Supply & Treatment, Third Edition, Revised-updated, May 1999.
2. Manual on Sewerage & Sewage Treatment, Second Edition, 1993.
3. Manual on Municipal Solid Waste Management, 2000.

4. Manual on Operation and Maintenance of Water Supply systems, 2005.

Apart from above, emerging options like desalination technology for water treatment for drinking, low cost options for sewage treatment like decentralized sewage treatment and package treatment for housing complexes, FAB technology for sewage treatment etc. should also be explored for their adoption.

A range of low cost sanitation technologies, which can be mainly found in rural and low-income urban areas, have been listed below. They can be managed by either individuals or communities.

Wet systems

- Pour-flush latrine with leaching pits
- Septic tank and aqua privy

Pit emptying techniques

- Vacuum tanker
- Manual latrine-pit emptying technology (MAPET)

Liquid effluent disposal systems

- Soakaway
- Drainage field
- Small bore sewerage

Similarly, in case of solid waste management the treatment options like vermin-composting, aerobic composting and sanitary landfilling etc. should be adopted conforming to solid waste management (handling) rules 2000.

The report of Technology Advisory Group (TAG) on solid waste management has suggested cost effective treatment options in Indian condition. Further, the Inter-Ministerial Task Force report brought out by M/o urban development on "Integrated Plant Nutrient Management using city compost" provides guidance on composting of municipal solid waste.

4.16 URBAN ENVIRONMENT:

- Nearly two-third of the all diseases are caused by problems relating to lack of clean air or poor access to basic infrastructure and services – water supply, sanitation, drainage, Solid Waste Management, transport, etc. Children, especially infants, are most vulnerable to environmental degradation.
- Municipal Bye-laws need to be suitably amended with necessary penal clauses and enforced effectively to stop open defecation practice as well as indiscriminate throwing of garbage/litter in public places, which is the main source of contamination of water bodies and spread of diseases. Adequate sanitation facilities need be provided to the areas prone to open defecation.
- To a large extent, the situation can be attributed to encouraging industrialization and urban development without ensuring environmental safeguards. Today, cities and towns in the developing world are exposed to air and water pollution and problems relate to inadequate liquid and solid

waste disposal. Indiscriminate discharge of domestic and industrial waste water has seriously polluted most water resources.

- Urban environmental management needs to integrate environmental problems of the past as well as those of the future. Cities would have to cope with the problems due to higher level of waste generation and changes in the spatial dimensions of the city.
- Sanitation covers arrangements for drainage of rainwater, effluent collection and disposal of garbage, and removal of human excreta. Proper sanitation is a necessary condition for improvement in general health standards, productivity of labour force, and better quality of life. However, as a matter of priority in the past, water supply has received greater attention with sanitation being comparatively neglected. Consequence of the relative neglect of sanitation has been degradation of environment and serious health impact from water borne and vector borne infections. It is necessary that the problem of water supply and sanitation (including sewerage, low cost sanitation, waste water treatment, and solid waste management) are addressed simultaneously, as issues in environmental health and sanitation.

4.A FOCUSING PROGRAMMES FOR URBAN POOR INCLUDING SC & ST

4.A.1 PROGRAMMES FOR DISADVANTAGED GROUPS

In all stages of planning, formulation and development of water and sanitation projects, poor and disadvantaged sections of society mainly consisting of SC/ST population should be included and their needs accorded top priority so that they do not become vulnerable to water borne diseases and other health hazards due to non availability of potable water, inadequate sanitation and unhygienic living conditions in their localities. At the same time, the programmes of other central Ministries such as SC/ST Plans, Tribal Welfare Plan may be suitably dovetailed under the JNNURM / UIDSSMT programmes of the Ministry of Urban Development. CDPs should be prepared so as to include the special problems and requirements of these vulnerable sections of the society.

Such urban areas which are predominantly inhabited by SC / ST population should be provided with water supply and sanitation facilities on a priority basis by the State Governments and concerned ULBs. As such, the DPRs under JNNURM and UIDSSMT being submitted by the State Government and ULBs to the Ministry of Urban Development for approval should give due emphasis on the aforesaid aspects.

Also, the Inter-Ministerial Task Force on Universal Sanitation in Urban Areas has been constituted under the Chairmanship of Joint Secretary in charge of the Urban Water Supply and Sanitation, Ministry of Urban Development and Members from Planning Commission, other Ministries, CPHEEO and conveners as Administrative Staff college of India and WSP, South Asia needs to adequately deal with the current National and State Level policies and programme for urban sanitation with special emphasis on sanitation facilities to SC/ST and urban poor.

Moreover, the two sub-committees constituted by the aforesaid Task Force to develop "National Urban Sanitation Policy" and "Communication Campaign

Strategy for Open Defecation Free Urban Areas" need to address the problems of SC/ST and other urban poor in a holistic manner.

5. RECOMMENDED INVESTMENT NEEDS FOR URBAN WATER SUPPLY AND SANITATION SECTOR

To achieve 100% population coverage targets in urban areas with water supply, sanitation, drainage and solid waste management, as envisaged in 11th plan approach, the estimated requirement of funds and the possible sources of fund flow are outlined as below:

5.1 FUND REQUIREMENT FOR 11TH FIVE YEAR PLAN:

The total fund required for implementation of 11th Five Year Plan targets in respect of urban water supply, sewerage and sanitation, drainage and solid waste management is as under:

(Rs. In crore)		
Sl.No.	Sub-Sector	Estimated Amount
(i)	Urban water supply	53,666
(ii)	Urban sewerage & sewage treatment	53,168
(iii)	Urban drainage	20,173
(iv)	Solid waste management	2,212
(v)	Management Information system (MIS)	8.4
(vi)	R & D and PHE training	10
	Total	1,27,025.4

Say Rs. 1,27,025 crore

The detail calculation of fund requirement including the assumptions made for the assessment is at **Annexure-IVA-E**. The details of fund requirement for setting up MIS-cell are at **Annexure-V** and that for R & D and PHE training is at **Annexure-VI**.

5.2 AVAILABILITY OF FUNDS:

To improve the infrastructure related to water supply and sanitation in the urban centres, Gol has been assisting the ULBs / State Government through various schemes / special Central assistance from time to time. However, in order to expedite creation of infrastructure and to improve the urban environment, Government of India has launched the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) with Central outlay of Rs. 1,00,000 crore to be invested during 2005-2012 over a period of 7 years.

In order to improve the overall urban environment, it is envisaged to create and to rehabilitate urban water supply and sanitation and other components eligible under the Programme. However, water supply and sanitation has been accorded highest priority among the eligible components and it is expected that 40% of the outlay would be spent on water supply and sanitation sector. As such,

the tentative outlay available for the sector under JNNURM & UIDSSMT up to 2012 may be taken as Rs. 40,000 crores.

5.3 BRIDGING THE GAP BETWEEN THE FUNDS REQUIRED AND ACTUAL AVAILABILITY – POSSIBLE SOURCES OF FUNDING.

As such, to bring the infrastructure to a level, to meet the requirements as per norms, there exists a gap of Rs. 87,025 crore (1,27,025 - 40,000). However, if we compare the gross outlay of Rs. 20,079 crore provided during the 10th Five Year Plan in State as well as Central sector, a huge outlay is needed for the sector. This necessitates exploring possible additional sources of funding the water supply and sanitation sector from other than the Government sources. Possible sources of funding for bridging the gap may be as proposed below:-

1. Central Sector outlay : The central sector outlay may be stepped up from the present Rs.40,000 crore (under JNNURM/UIDSSMT) to around Rs.70,000 crore under the ongoing central programme of JNNURM and UIDSSMT so that great thrust could be given to water supply and sanitation sector in the urban areas.
2. State Sector Outlay: Likewise the State sector outlay which stands at Rs.18,749 crore during the 10th Plan may be stepped up to around Rs.35,000 crore.
3. Institutional Financing : Funds may be mobilized through national financial institutions such as LIC, HUDCO, IL&FS etc to the tune of Rs.10,000 crore.
4. Additional assistance from external support agencies (ESA) : Through, external funding agencies viz. World Bank, JBIC, ADB and other Bilateral Agencies such as JBIC funds to the tune of about Rs.10,000 crore.
5. FDI and Private Sector: In addition, through foreign direct investment and private sector funds upto Rs.2,025 crore may be mobilized to support the sectoral activities.

Thus, the summary of proposed fund flow for the sector is as follows:

<i>Source of funding</i>	<i>Amount (in Rs. Crore)</i>
Central Sector outlay	70000
State Sector outlay	35000
Institutional Financing	10000
Assistance from External Support Agencies	10000
FDI & Private sector	2025
Total	1,27,025

However, the proposed funding from various quarters may not materialize unless government introduces reforms and takes necessary initiatives to attract

private sector participation in this rather less attractive sector for private entrepreneurs.

5.4 PROPOSED REFORM INITIATIVES BY GOVERNMENT FOR WATER SUPPLY & SANITATION SECTOR

Apart from the reforms initiatives undertaken by government for the sector at para 2.3 in section-II of the report, the following initiatives also need to be undertaken urgently for speedy development of the sector:

- At present excise duty exemptions are available for the equipment and machinery used in water treatment and pipes used in water supply schemes upto first storage point. To ensure that consumers are not over burdened and to cross subsidize for urban poor, Government should **allow concessions** like custom / excise duty exemptions on the pumps, and motors and other machinery and equipment used in water supply and sanitation schemes and tax holiday on income generated by private entrepreneur on the funds invested in the sector. Appropriate rebate in taxes on capital invested in this sector may also be considered.
- Municipalities should avail facilities available under the newly approved Pooled Finance Development Scheme (PFDS).
- Pumping machinery and equipment employed in Water Treatment Plants (WTPs) and Sewage Treatment Plants (STPs), are highly power intensive and hence the **electricity required for them should be provided at subsidized rates as those available for agriculture**, so as to help the sector become financially viable.
- Wherever needed, land may be provided by ULB / State Governments at nominal prices to private entrepreneurs for installing the system facilities.

5.5 PRIVATE SECTOR PARTICIPATION TO ENHANCE FUND FLOW FOR THE SECTOR:

From the past experience, it can be stated that Government funding alone would be too meager to create infrastructure in the towns to the desired level and to maintain the same in tip top condition. Hence, there is an urgent need to explore the possibility to incentivise water supply and sanitation sector so as to attract private sector, financial institutions and other interested parties to create, operate and maintain water supply and sanitation schemes on a sustainable basis. This would happen only when desired reforms are undertaken where private entrepreneurs can come forward to invest the money in creation of infrastructure, in operation and maintenance of the system to ensure the desired service level and at the same time they could be assured of satisfactory return on their investments made in the sector. In addition, there is an imminent need to bring water supply and sanitation services under the regulatory regime so as to achieve a level playing field and to generate enthusiasm among the private players. The

desired reforms/concessions to attract private sector participation for water supply, sewerage and solid waste management may be as under:

Water Supply Sector:

- Provision for safe drinking water is very vital for the community health. There is an urgent need to change the mindset of people not to treat water supply as a free commodity and pay for the water consumed by them. This would help in attracting private sector participation to invest fund in creation of infrastructure as well as maintaining the same in tip top condition and to minimize manpower losses due to water borne diseases.
- At present excise duty exemptions are available for the equipment and machinery used in water treatment and pipes used in water supply schemes upto first storage point. To ensure that consumers are not over burdened and to cross subsidize for urban poor, Government should **allow concessions** like custom / excise duty exemptions on the pipes used in water supply distribution networks, pumps, and motors and other machinery and equipment used in water supply and sanitation schemes and tax holiday on income generated by private entrepreneur on the funds invested in the sector. Appropriate rebate in taxes on capital invested in this sector may also be considered.
- Such measures would create an environment for our assured return on investment made by private entrepreneurs may be very useful to start with.

Sanitation Sector:

- Sanitation sector is directly related to the health of public and urban environment. Sewerage and sewage treatment schemes are highly cost intensive and it is difficult to recover the entire capital and O&M costs through direct user charges from the public. Moreover, there is general feeling among the people that this is the total responsibility of Government to provide sanitation facilities. However, due to huge fund requirement, it is difficult for Government to really address the issues of sanitation to desired level.
- By initiating some reforms as suggested above to attract the private entrepreneurs to invest, operate and maintain the entire sanitation system, either in whole or in parts will be highly useful to achieve the desired goals under the sector.
- Government should **allow concessions** like custom / excise duty exemptions on the
 - ✓ pipes, pumps and motors and other machinery and equipment used in sewerage and sanitation schemes
 - ✓ tax holiday on income generated by private entrepreneur on the funds invested in the sector.

- ✓ Appropriate rebate in taxes on capital invested in this sector may also be considered.

- Various options should be explored to make this sector viable for private sector participation. Sewage treatment plants (STPs) are highly power intensive and should be provided **electricity at subsidized rates as those available for agriculture**, so as to make the sewerage projects financially viable.

SOLID WASTE MANAGEMENT:

In order to make Solid Waste Management a successful proposition in India, it is very much necessary to encourage and involve private sector by offering certain incentives as outlined below on setting up compost plant / sanitary land fill etc.

COMPOST PLANT:

- Land on long term lease for setting up of compost plants.
- Tax holiday for 10 years or so and exemption of customs duty and excise duty, sales tax and local taxes on equipment / machinery for collection, transportation of solid waste, processing plant etc.
- Supply of electric power to processing plants at the same rates as provided to agricultural sector.
- Capital subsidy / interest subsidy, transport subsidy and promotional subsidy for production; promotion, market and sale of compost

SANITARY LAND FILL:

- land on long term lease
- exemption of customs duty on equipment & machinery
- excise duty exemption on the equipment and machinery,
- supply of power and water at subsidized rates to the ULBs etc.

6. RECOMMENDATIONS

Due to inadequate outlays for Urban Water Supply and Sanitation sector in the 10th Five Year Plan and various other factors, the envisaged targets as recommended by the Working Group for the formulation of 10th Five Year Plan are not likely to be achieved.

In so far as Urban Water Sector is concerned, even after 59 years of independence, there is no water security to most of the people in India. As such, it is very much necessary to provide safe drinking water and hygienic sanitation facilities (including drainage and solid waste management) to all the urban population, on a sustainable basis, by the end of 11th Five Year Plan i.e., 31.3.2012.

Keeping in view the aforesaid thrust areas and outlays required to achieve the envisaged targets as outlined in the Report, the following recommendations are made :-

WATER SUPPLY

1. Extend safe and adequate drinking water supply facilities to the uncovered urban population so as to achieve the goal of 100% coverage of population as per the suggested norms of Government of India by the end of 11th Five Year Plan. At the same time, the existing schemes which need augmentation/ rehabilitation to be taken up in all such cities and towns where necessary on a priority basis.

Keeping in view the above recommendation, outlays for the ongoing Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) may have to be stepped up /augmented considerably in the 11th Five Year Plan so as to meet the fund requirements of this vital sector.

2. As the availability of fresh water is diminishing day by day due to change in rainfall, rapid urbanization and industrialization etc., it is necessary to bring out proper ground water legislation at the State Govt. level followed by effective implementation of the same, and particularly, in all such urban areas which are facing acute shortage of drinking water.
3. While designing and constructing multi purpose dams / reservoirs, adequate care should be taken to reserve / apportion sufficient quantity of water for domestic use in the urban areas. Keeping in view the National Water Policy, top most priority should be given by the State Govts. to the drinking water supply needs of cities and towns from the available water sources. This needs to be operationalised by all States in the form of State Water Policy as desired in National Water Policy, 2002.

4. Under JNNURM and UIDSSMT programmes, special attention is needed for towns and cities affected by surface and ground water contamination due to the presence of chemicals such as iron, manganese, fluoride, salinity, arsenic, pesticides etc. in excess of the prescribed limits. Such drought prone and water shortage areas as well as the cities and towns having water quality problems should be given top priority in the selection process by State Governments/ ULBs.
5. It is a known fact that due to poor operation and maintenance of water supply schemes, the assets created by investing millions of rupees is either under utilized or defunct in some cases without accruing anticipated benefits to the community. As such, adequate thrust may be given to the O&M of the assets created for their optimal and efficient use by evolving suitable strategy and creating adequate infrastructure facilities within State Departments/concerned ULBs as the case may be.
6. Metering of water supplies should be made mandatory in a gradual manner with a view to conserve precious water as well as to generate revenue on a realistic basis. At the same time, good quality water meters must be made available to the water utilities for achieving the aforesaid objective. In this regard, joint ventures of Indian and foreign companies may be encouraged to manufacture requisite quantity of such meters with desired precision. Concessions in excise and customs duty etc. may also be considered to promote such joint ventures. At the same time existing capital investment limit of Rs. 5 crore of Ministry of Small Scale Industries (SSI) may be raised to Rs.100 crore or so to attract reputed companies in this field to meet the requirement of good quality, long lasting water meters to meet the surging requirement of water meters in wake of launching of JNNURM/UIDSSMT. Ministry of Small Scale Industries (SSI) may be advised to take up this issue on priority.
7. Telescopic water tariff / user charges should be formulated and levied to discourage excessive use of water. At the same time, efforts should be made to see that the revenue generated through sale of water is adequate, at least, to maintain the created systems in the initial years and gradually increased to recover the capital cost with interest thereon, to make the systems financially viable and self-supporting.
8. Leakage and Unaccounted For Water (UFW) is another constraint in cities and towns. In some cases, the UFW / Non Revenue Water (NRW) may be up to 50%. Such losses should be controlled and brought to a minimum level of 15% to start with through intensive leak detection and rectification programme. Severe penalties should be levied on those found responsible for leakage and wastage of water. ULBs may be asked to enact necessary changes in the Municipal Acts.

9. To reduce wastage of water, adoption of low volume flushing cisterns, waste not taps etc. should be adopted so as to minimize the need for fresh water. Perhaps, Ministry/ TCPO may take up the matter with the States and ULBs to promote usage of such cisterns so as to conserve fresh water. CPWD may also widely use such cisterns in the buildings constructed by them.
10. It must be made mandatory to install rain water harvesting systems in both public and private buildings including industrial and commercial establishments so as to conserve water. The ULBs should make it a point not to approve building plans having no provision for such systems. It is also equally important to ensure proper implementation of the approved system by the builders.
11. The State Govts. and ULBs may implement schemes for artificial recharge of ground water as per techniques developed by the Central Ground Water Board (CGWB).
12. Water quality surveillance and monitoring should be given top most priority by the State Govts./ULBs so as to ensure prevention and control of water borne diseases. For this purpose, water quality testing laboratories have to be set up in every city and town backed by qualified personnel to handle such laboratories and where such labs already exist, they should be strengthened with equipment, chemicals, manpower etc., if necessary..
13. Under JNNURM and UIDSSMT programmes, as a part of Reforms Agenda, the State Govts./ ULBs may be directed to take up reform measures in selected cities and towns, for UFW, water and energy audit, metering, reuse and recycling, levy of realistic user charges, efficient water use and its equitable distribution, rain water harvesting, commercial accounting systems, consumer orientation, cost recovery, mobilization of additional resources, development of computerized MIS/GIS and urban mapping of utilities, decentralized waste treatment/management systems, adoption of appropriate technologies suiting to local conditions etc. as models to demonstrate their efficacy and usefulness which can be further replicated in other cities and towns of the country.
14. The ULBs need to be given greater autonomy in respect of fixing tax rates; user charges etc. and also ensure regular revision of such rates. 74th Constitutional Amendment needs to be implemented in its entirety. There is a need for regulatory regime in water supply and sanitation sector to enthuse confidence among the private players.
15. Requirement of funds for achieving the Urban Water Supply and Sanitation targets during 11th Plan is huge and if it is not possible to meet the same through the budgetary resources of State and Central Governments alone, efforts should be made to step up the quantum of funds through institutional financing, foreign direct investment, assistance from bilateral, multi-lateral agencies, newly launched Pooled

Finance Development Scheme (PFDs), tax free municipal bonds, MPLAD funds etc. apart from involving private entrepreneurs.

16. Computerized MIS is a must for developing a strong data base at local, State and Central levels on Urban Water Supply and Sanitation sector for decision making , planning and mid course corrections from time to time. However, as of now, in most States, elaborate computerized MIS is not in place. Keeping in view its importance, it is recommended that MIS Cells may be created with central funding at State and Central levels for exchanging information and to develop good data base for the sector.
17. Trained technical manpower is a must for successful implementation and maintenance of various water supply and sanitation schemes. However, in some States as well on in many ULBs the water utilities do not have adequate trained technical manpower, due to which the sector is affected badly. Under the circumstances, the PHE training programme of the Ministry of UD has to be toned up further with adequate funds and manpower so as to enable CPHEEO to impart training to the various technical personnel of the State Govts./ ULBs on a variety of technical subjects and management aspects.
18. To ensure safety of public water supply infrastructure, which is within the reach of anti-social elements, who may disrupt water supply by way of polluting / poisoning of supply, mandatory fencing and other security measures should be ensured to all water supply units to safeguard the health of the public.

SEWERAGE AND DRAINAGE

19. It is recommended that during 11th Plan Period, 70% of the urban population may be provided with the conventional sewerage and sewage treatment facilities while the balance 30% of urban population will be provided with low cost sanitation (onsite) sanitation facilities with the aim of covering 100% population during the 11th Plan Period.
20. Since conventional sewage treatment techniques are costly both from capital as well as O&M point of view, several urban local bodies may not be in a position to afford such costly technologies. Therefore, it is recommended that wherever feasible, cost effective and less power intensive technologies such as decentralized sewage treatment plants, waste stabilization ponds, fluidized aerobic biological reactor (FAB) etc. for treating sewage have to be adopted.
21. It is a fact that untreated sewage in most cities and towns is reaching water bodies such as rivers and lakes causing contamination / pollution in both surface and ground water sources. Besides, the demand for fresh water is increasing day by day while the fresh water sources are depleting year after year. Therefore, recycling and reuse of sewage after the desired degree of treatment (depending upon the end use) for various non-potable purposes should be encouraged. Industries and

- commercial establishments must be persuaded to adopt reuse of treated sewage and recycle treated trade effluents to the extent possible in order to cut down the fresh water demand. Moreover, incentives in the form of rebate on water cess, concessions in customs and excise duty on equipment and machinery, tax holiday etc., should be considered by GOI for agencies dealing with planning, developing operating such reuse treatment plants as well as users of treated sewage and trade effluents.
22. Suitable public private partnerships may be explored by roping in private operators. At the same time, excise and customs duty concessions, income tax concessions, tax holidays etc. may also be considered by the Govt. of India for import of equipment and machinery needed for the development of such systems, so as to encourage private agencies to develop such systems and operate and maintain them effectively.
 23. Where sewerage systems exist, the facilities should be optimally utilized by connecting all the household toilets to the existing sewerage system. The local bodies must ensure that the existing Municipal Bye-laws are so amended that it will become mandatory for all the residents to connect their toilets to the existing sewerage system.
 24. Fringe areas of cities as well as colonies of economically weaker sections and slum dwellers may have to be covered in the first instance with low cost sanitation facilities either on individual household basis or community basis with "pay & use system" as appropriate, with adequate maintenance arrangements. Municipal Bye-laws have to be suitably amended with necessary penal clauses and enforced effectively to stop open defecation practice as well as indiscriminate throwing of garbage/litter in public places.
 25. It is often observed that in low income communities, the service levels in respect of provision of drinking water supply and sanitation facilities are very low. As a result, these disadvantaged groups are prone to various waterborne/ water related diseases. Therefore, during the 11th Plan Period sincere effort should be made to improve service levels in low income communities as well as the colonies predominantly inhabited by SC/ST population with a view to improving the quality of life in such localities. While forwarding DPRs for consideration under JNNURM and UIDSSMT Programmes, the concerned State Governments / urban local bodies must ensure that the aforesaid aspects are adequately addressed in the projects under consideration.
 26. Targeted subsidy may be made available to SC and ST and other disadvantaged groups living in urban slums on taking house service connections for water supply/sewerage, metering, construction of latrine and subsidized water rates etc. and accordingly adequate funds may be ear-marked for the purpose so as to avoid any possible diversion of funds by the State Governments / ULBs. At the same time internal ear-marking of funds for the urban slums under JNNURM / UIDSSMT schemes should be made mandatory. It is also very much necessary to

monitor the physical and financial progress of the implementation of such programmes on a regular basis by the funding agencies so as to ensure fulfillment of the envisaged objectives.

27. Comprehensive storm water drainage system has to be provided in all the cities and towns based on need, in order to avoid water logging in residential areas/flooding of streets during monsoon period.
28. Under the National River and Lake Conservation Programme of the Ministry of Environment & forests, Gol, in some towns works on interception & diversion of untreated sewage are taken up with a view to abate water pollution in rivers, lakes, sea etc. However, these works are not carried out on "whole town" approach, due to which several areas of the project towns are left untouched. As such, this piece-meal approach to the pollution abatement programme by and large may not yield the desired results even after spending large sums of fund.

Recently, the Ministry of Urban Development has launched JNNURM and UIDSSMT programmes with a view to covering all the urban areas with safe water supply and hygienic sanitation facilities. The following table shows the comparison in scope of work of NRCD and scope of work under JNNURM / UIDSSMT.

Scope of work covered under JNNURM/UIDSSMT	Scope of work covered under NRCD	Objectives
<ul style="list-style-type: none"> ➤ Renewal of sewerage/drainage/ solid waste disposal systems, etc. ➤ Provision for comprehensive, sewerage system, sewage treatment plant, Low Cost sanitation and Solid Waste Management on whole town basis 	<ul style="list-style-type: none"> - Interception and diversion works to capture the waste water flowing into the river through open drains and divert them for treatment - Setting up Waste Water Treatment Plants for treating the diverted sewage - Construction of Low Cost Sanitation toilets to prevent open defecation on river banks 	Fully matching

➤ Preservation of water bodies.	- Construction of Electric crematoria and Improved Wood Crematoria to conserve the use of wood and help in ensuring proper cremation of bodies brought to the burning ghats	Fully matching
➤ Information, Education and Communication (IEC)	- Afforestation and Public Awareness and Participation	Fully matching

From above table it is clear that the scope of work of NRCD is fully covered under JNNURM / UIDSSMT as well.

In view of above, it is recommended that the schemes / programmes of NRCD may be transferred to the Ministry of Urban Development during the 11th Plan Period, so as to avoid overlapping of such works and also to tackle the pollution abatement problems on a "whole town" basis under JNNURM and UIDSSMT.

SOLID WASTE MANAGEMENT (SWM)

29. Urban waste management by ULBs is already under stress because of poor resources and inadequacies of the system. Unless concerted efforts are made to improve the flow of resources to Solid Waste Management and build up systems which incorporate the basic requirements of a proper waste management practice, the problem of urban waste will be further aggravated and cause environmental health problems.
30. It is recommended that all the cities and towns have to be provided with appropriate Solid Waste Management facilities giving due emphasis to the magnitude of the problem.
31. Soil fertility is being badly affected by excessive use of chemical fertilizers and inadequate use of organic fertilizers. Large quantities of urban waste can be a useful solution to this problem. Compulsory production of compost from urban solid waste in cities and towns and promotion of application of this organic manure in agriculture and horticulture should be implemented, as this may have a significant positive impact on soil fertility.
32. The Report of the Inter Ministerial Task Force on the "Integrated Plant Nutrient Management using city compost" constituted by the Ministry of Urban Development in March, 2005 as per the directive of Hon'ble Supreme Court of India has recommended technical, financial,

qualitative, marketing and sustainability aspects of utilization of Municipal Solid Waste for compost purpose. It is recommended that the concerned Ministries / Departments of Government of India, as well as State Governments and ULBs must ensure implementation of the various recommendations of the said report which would go a long way in managing city garbage in a sustainable manner as well as create wealth from waste. The Hon'ble Supreme Court in its recent verdict has directed that all the concerned Ministries / Departments to implement the recommendations made in the Task Force Report. Accordingly the following subsidies should be provided:

- Fiscal concessions and subsidies may be considered in the management of solid waste. For instance, transport vehicles for carrying solid waste may be exempted from excise, sales tax and other duties. Similarly, private companies entering the sector may be granted soft loans for installation of compost plants, sanitary landfills and waste recycling plants. For plant and machinery, custom and excise duty exemption and for installation of processing plants, income tax exemption and tax holidays may also be considered. The organic manure produced in compost plants may be granted similar subsidy as in the case of chemical fertilizers.
33. Quality standards for compost will have to be prescribed by Bureau of Indian Standards (BIS) at the earliest. At the same time, it should be made mandatory that compost sold in the market should clearly indicate the exact chemical composition (NPK etc) on the bags for the benefit of users.
 34. To the extent possible materials such as metal, glass, plastic, rubber, tin and paper available in the municipal waste must be recycled back as they have adequate salvage value. Inorganic and inert material such as sand, grit, stones, bricks, concrete, rubble, etc. may also be used for making low cost bricks, road material, aggregates, etc. As such, efforts should be made to reuse the same and enough incentives in the form of tax concessions, subsidies etc. may be given to the entrepreneurs dealing with such materials/ processes.
 35. A sustainable program involving citizens, NGOs and other organizations should be implemented to obtain citizens' cooperation. Ward Committees as laid down in the 74th Constitution Amendment should be formed in every ward. These should comprise citizens representatives, social workers and concerned municipal officials. All decisions regarding location and capacity of community bins, cleansing frequency etc. should be taken in consultation with them.
 36. Rag pickers play an important role in recycling of the waste. NGOs should be encouraged to provide organizational support and identity to the rag pickers so that better recycling occurs.

37. Municipal Solid Waste (Management and handling) Rules, 2000 notified by the Ministry of E & F should be implemented by the State Governments and ULBs without any further delay.
38. Adequate land should be earmarked / allotted at the planning stage itself by the respective ULBs for setting up of sanitary land fills; compost plants and other processing units including provision for future expansion.
39. The Ministry of Urban Development, Government of India needs to produce short films, advertisements, picture posters etc. for audio and video publicity through TV and print media on various aspects of water quality, importance of safe drinking water, its handling and storage, water conservation in homes, use of sanitary toilets, separate storage of dry and wet garbage and its hygienic disposal, vector control, personal hygiene etc.
40. Experienced NGOs and CBOs may be identified, recognized and involved to the extent possible for construction and maintenance of LCS, maintenance of water supply, solid waste management and IEC activities, particularly in urban slum settlements.
41. Municipal authorities do not have adequately trained personnel for managing the water supply & sanitation system. This has often resulted in failure of the latest equipment and facilities that were introduced in the past. It has also resulted in improper decision making by persons who did not have the necessary expertise. It is hence necessary that suitably trained manpower be deployed which would ensure selection and optimal utilization of various equipments, vehicles and processes. A trained cadre of personnel should be provided at all levels.
42. Unless the basic amenities like water supply, sewerage, drainage and solid waste management facilities are provided to the 100% population on a sustainable basis in the project towns, schemes such as roads, flyovers, bridges (ROB, RUB etc) may not be considered by Government of India under JNNURM/UIDSSMT.
43. Adequate funds may be provided in the Central plan to continue applied research projects on various field related problems like development of software, setting up of pilot plants of decentralized sewage treatment, composting etc. to serve as models. Pilot plants may be necessary to demonstrate the technology and its financial viability.

BRIDGING THE GAP BETWEEN THE FUND REQUIREMENT AND ACTUAL AVAILABLE FUNDS FOR ACHIEVING THE ENVISAGED 11TH FIVE YEAR PLAN TARGETS

44. The total requirement of funds for achieving the envisaged 11th Five year Plan targets in respect of urban water supply, sewerage and sewage treatment, drainage and solid waste management has been assessed at Rs. 1,27,025 crore at 2006 price level. The available funds

for the ongoing programmes of JNNURM and UIDSSMT may be to the tune of Rs. 40,000 crore leaving a gap of Rs. 87,025 crore.

For bridging the gap, the following strategy is recommended:

1. Central Sector outlay : The central sector outlay may be stepped up from the existing Rs.40,000 crore to around Rs.70,000 crore under the ongoing central programme of JNNURM and UIDSSMT so that great thrust could be given to water supply and sanitation sector in the urban areas.
2. State Sector Outlay : Likewise the State sector outlay which stands at Rs.18,749 crore during the 10th Plan may be stepped up to around Rs.35,000 crore.
3. Institutional Financing : Funds may be mobilized through national financial institutions such as LIC, HUDCO, IL&FS etc to the tune of Rs.10,000 crore.
4. Additional assistance from external support agencies (ESA) : Funds may be mobilized through external funding agencies viz. World Bank, JBIC, ADB and other Bilateral Agencies to the tune of about Rs.10,000 crore.
5. FDI and Private Sector: In addition, through foreign direct investment and private sector funds upto Rs.2,025 crore may be mobilized to support the sector activities.

The proposed flow of funds is summarized as below:

Source of funding	Amount (in Rs. Crore)
Central Sector outlay	70,000
State Sector outlay	35,000
Institutional Financing	10,000
Assistance from External Support Agencies	10,000
FDI & Private sector	2025
Total	1,27,025

ANNEXURES

Annexure - I

URBAN PLANNING ISSUES TO BE ADDRESSED IN THE ELEVENTH PLAN

(Inputs for inclusion in the report of the Sub-Group on Urban Development for 11th Plan)

1. Background

- 1.1 With rapid growth of urban population conditions in urban areas are deteriorating leading to urban crisis. Macro economic policies directly affect the urban economy and quality of urban environment. Impact of all such liberalized policies and economic reforms need to be seen on the performance of the urban sector. There has not been consistent and coherent urban development policy although attempts have been made in the successive Five Year Plans to solve the problems of towns and cities in an ad-hoc manner.
- 1.2 The urban planning system currently in vogue has passed through several paradigms from an isolated improvement scheme to the comprehensive development for the town / city as a whole. And now the emphasis is on preparation of City Development Plan as vision document and development of high-tech and IT cities. Planning process needs to be strengthened in terms of horizontal and vertical coordination and integration of physical and economic planning aspects particularly in light of the 74th Constitution Amendment Act, 1992. Urban Planning system is required to be lined with the development thrust and provisions of liberalized economic policies, Industrial Policy, National Housing and Habitat Policy, National Transport Policy, National Slum Policy, JNNURM, F.D.I., IT Development, SEZ Development, energy efficiency, urban risk mitigation and transformation of urban society.
- 1.3 Urban planning is a state subject and Central Government / Ministry of Urban Development lays down policies and guidelines with regard to urban development in the country. All the constituent states and Union Territories are required to enact and update their own Urban and Regional Planning and Development Acts. These Acts are by and large based on Model Regional and Town Planning and Development Law prepared by Central Town and Country Planning Organisation. They are enabling instruments for undertaking urban and regional planning activities at various levels.

2. Issues

- 2.1 State Town Planning Departments, Planning and Development Authorities and Urban Local Bodies are engaged in preparation of Regional Plans, Master Plans / Development Plans, Zonal Plans, Local Area Level Plan, Improvement Schemes, Town Planning Schemes, etc. These agencies are also responsible for giving development permission as per development

control norms. With the implementation of 74th Constitution Amendment Act city planning functions need to be transferred to the urban local bodies to make the planning process participatory and interactive.

- 2.2. All types of plans at various levels, draft or final, go through a process of inviting public objections before being finalized. Public participation in such planning process is very limited. An interactive public participation at various stages of plan preparation and its implementation will improve the efficacy of planning system.
- 2.3 Urban land development is being controlled by following the objectives of access to urban land in terms of ensuring an optimum social use of land, making available adequate quantity of serviced land at reasonable price to both public authorities and individuals, encouraging cooperative community efforts in the field of land development and preventing concentration of urban land in a few private hands safeguarding the interest of weaker section of the society. Various alternative models for assemblage of land have been in force as part of urban planning and development procedure. The concept of Accommodation Reservation (AR) and Transfer of Development Rights (TDR) being followed in Greater Bombay, land acquisition through Land Acquisition Act, 1894, negotiated land purchase under Haryana Development and Regulation of Urban Areas Act, 1975, Joint Sector Approach of Uttar Pradesh Government empowering private developers, Town Planning / Land Pooling Schemes are some of the important mechanisms for land assembly and development. Involvement of private sector in land assembly and development is slow but picking up. Efforts should be made to create congenial techno-legal and financial regime to facilitate large scale involvement of private sector in development of land within the planned framework.
- 2.4 With the increasing level of urbanization spread of towns and cities is distinctly classified into three zones namely i) municipal area, ii) area covered by urban development authority / local planning area, and iii) outskirts / urban fringe and its rural environs i.e. area outside UDA / LPA. Types of planning and development controls, pressure of urbanization and growth, level of activities and other characteristics vary in intensity from the core zone of municipal limits to the outer rural area. In a typical urban situation city center / core is almost fully developed and it only offer scope for redevelopment or urban renewal. Efforts are required to channelise the growth in a planned and phased manner to tackle the problems of urbanization in Zone II and Zone III in a regional context.
- 2.5 Master Plan approach as an important scheme of urban planning system in the country has made a discernible impact in regulating and channelising the development and growth of cities and towns. Without Master Plan the situation would have been worst in our towns and cities. However, effectiveness of Master Plan Approach in the context of fast changing urban situation and appalling urban condition is being questioned. The issue has been discussed at length in National level workshops organized by the Ministry of Urban Development and it concluded that the Master Plan as a tool for City Planning and Development can not be done away with, rather

the need is to make it more realistic and effective. As a follow up Urban Development Plan Formulation and Implementation (UDPFI) Guidelines were prepared by the Ministry and sent to all the State Governments for reference and guidance.

- 2.6 Experience of implementation of Master Plan has not been encouraging mainly because of weak data base, financial constraints, lack of resource mobilization, ambitious plan proposals, lack of integration between spatial planning proposals of the master plan and economic plan proposals, inadequate legislative support in certain areas, overlapping /conflicting role of multiplicity of agencies at local level, inadequate attentions to the urban poor and informal sector etc. Instead of having master plan a rigid and static document it should be flexible and dynamic to incorporate the changing situation. Plan should be for an inclusive city taking care of all the sectors of economy both formal and informal and the society as a whole.

3. Suggestions for XI Five Year Plan

- 3.1 Eleventh Plan should lay stress on the concept of integrated development planning. An interlinked framework comprising National level Spatial Strategy Plan in the form of National Urban Development Policy should be prepared followed by State Level Regional Plan indicating spatial priority urban regions. At local level the framework should include Metropolitan Plan prepared by Metropolitan Planning Committee and City, Ward and Local Area Plans prepared by Urban Local Bodies.
- 3.2 All the new developments whether new townships in the form of SEZ or IT / BPO cities, industrial growth centers should be located as per the proposals of spatial priority urban regions as indicated in State Level Urban Regional Plan. Growth of existing towns and cities should also be channelised accordingly.
- 3.3 Land being the scarce commodity and developed urban lands still scarcer there is an urgent need to prepare a new Urban Land Policy for judicious and optimal use of urban land.
- 3.4 As on date Master Plans are available for about 1500 towns only out of 5161 urban centres as per 2001 Census. Most of these Master Plans are outdated. Immediate need is to have upto date Master Plans in conformity with UDPFI Guidelines for all 441 Class-I cities (one lakh and above) in the first phase and for 496 class II towns with 50000 – 1 lakh population in the second phase. These towns are the growing urban centers and the potential growth centers.
- 3.5 Urban reform agenda both mandatory and optional as part of JNNURM and UIDSSMT Scheme may be used as instrument for creation of District Planning Committee and Metropolitan Planning Committee as per the provisions of 74th Constitution Amendment Act.
- 3.6 Similarly, existing Town Planning Act and Municipal Acts as well as Building Bye-Laws should also be modified incorporating the provisions for

involvement of private sector in urban development, structural safety, urban risk mitigation, rainwater harvesting, barrier-free environment, I.T. features and all other related issues.

- 3.7 Innovating tools and techniques for effective urban planning system needs to be adopted for development of database as well as analysis. Scope of NUIS Scheme should be enhanced in the Eleventh Plan for preparation of large scale base maps and generation of GIS database for all class-I and class – II towns on priority
- 3.8 Keeping in view the changing requirements of urban and rural community, technological advancement, impact of I.T. on functioning of towns, environmental and conservational needs, energy conscious settlement planning and development, the existing norms and space standards need to be updated and upgraded for various types of human settlements.
- 3.9 Planning and development capacity of urban local bodies need to be strengthened in terms of urban planning, project management, engineering, finance and accountancy and e-governance so as strengthen the capacity of urban local bodies for preparation and implementation of Development Plans.
- 3.10 Funding for these may be linked with the implementation of ongoing urban development scheme such as JNNURM, UIDSSMT, NUIS and urban reforms agenda and also as part of Research in Urban and Regional planning scheme.

**Sustainable Urban Energy-Environment Management
and Capacity Building of Urban Local Bodies**

The Energy and Resources Institute, New Delhi

18 August 2006

The 10th five-year plan has made efforts to channelize urban development and bring about a fast pace development to meet the growing demands of urbanization. It has addressed a variety of issues of urban governance, management, finances and reforms in the urban sector. However, the 10th Plan document fails to address the threats of urbanization on the environment leading to its degradation. This is an emerging area of concern among the community and needs due consideration. Some of the major issues of environmental management that have been identified for consideration under the 11th Five Year Plan are:

- Regulation of activities and their location and operation in a manner that will minimize its adverse effects of the core on environment both in terms of loss of natural amenities as well as degradation of the natural environment.
- Deficiencies in basic infrastructure like water supply, sanitation, solid waste management, power supply, transport linkages etc., which are pre-requisites for faster economic growth.

The above issues bring forth the following areas that need to be focused in the 11th Plan:

1. Environmental Management of Projects in Provisioning of Urban Infrastructure and Services

Environmental management is an extremely important aspect for provision of any urban infrastructure. However, it is also one of the most neglected and ignored aspect. It is thus felt that there is a need to assess the urban infrastructure projects from the environmental aspect as well.

- This can be accomplished by developing an Environmental Rating System for Urban Services provided by the local bodies for more informed planning and decision-making in the urban areas.
- Empower urban communities with information to foster the nascent trend towards transparency and accountability by the municipalities.
- Develop and disseminate a performance measurement system for the environmental aspects.

The performance measurement system for the environmental aspects should be associated with the operations of urban agencies providing the services of water supply, sanitation, solid waste management, power supply, transportation networks etc. Such a framework needs to be used for evaluation of performance of the urban local bodies in such a manner that it links the performance of the local body to the resources that it utilises and the outputs, services delivered to the

customers and be able to measure performance of the organisation at micro level. It should include benchmarking of the performance in order to judge the functioning of the agency and suggest corrective measures. However, the purpose of such a framework should not be to carry out a comparative analysis of urban local bodies (ULBs) against each other as the conditions under which each of the ULBs are performing are different.

2. Green Rating and Energy Efficient Buildings

Another important area where Environmental Management is of prime importance and is the need of the hour is the construction sector. The green cover, ground water resources have been forced to give way to the rapidly developing urban centres. Modern buildings built in our cities have high levels of energy consumption because of requirements of air-conditioning and lighting. At national level, domestic and commercial buildings account for more than 30% of annual electricity consumption. TERI's experience in this field shows that over 20% of energy savings is possible in existing buildings by retrofitting with efficient lighting, air-conditioning and electrical systems. On the other hand, new building can save up to 50% energy by appropriate design interventions in building envelope, lighting and air-conditioning system. Besides, the use of solar energy as a renewable resource and various solar energy devices/ technologies in urban areas can to a large extent substitute the electricity demand from the grid, particularly for water heating, energy efficient solar/ green buildings, solar air heating/steam generating systems (especially for industries & community kitchens) etc. A detailed note on various applications of solar energy technologies are presented in Annex 1 and need to be given due consideration for inclusion in the report of the sub-group on Urban Development for the 11th Plan.

These issues lead us to propose the development of energy efficient/green buildings. Green buildings are the buildings, which depletes the natural resources to the minimum during construction and operation. Such buildings are so designed to minimize demand on and conserve non-renewable and depletable resources, maximize utilization efficiency of these resources, when in use; and maximize re-use, recycling and utilization of renewable resources. This can be carried out using a rating system.

It is however important to rate these buildings on the degree of its 'greenness'. A rating system needs to be developed, which has a set of qualitative and quantitative assessment criteria, which addresses environmental concerns of buildings and takes into account Indian codes, standards, and best practices.

Other efforts need to be made in order to have the following in place:

- 1) Comprehensive green building design guidelines could be developed for buildings under Central Public Works Departments (under purview of the Ministry of Urban Development and Poverty Alleviation)
- 2) The Infrastructure Development Programme in Mega Cities under the Ministry of Urban Development and Poverty Alleviation should include sustainability parameters e.g. energy efficient street lighting and rain water harvesting from common areas (parks, open areas)

- 3) Extensive awareness/ training programmes should be organized for Architects/ Engineers of state government, housing boards, developments authorities, principal architects.

3. Waste to Energy Projects

The increasing industrialization, urbanization and changes in the pattern of life, which accompany the process of economic growth, give rise to generation of increasing quantities of wastes leading to increased threats to the environment. The urban waste includes Municipal Solid Waste, Vegetable and Fruits Market Wastes, Slaughterhouse Waste, Cattle Dung etc. Setting up of Waste to Energy projects which have already been demonstrated successfully in some cities/towns have not only helped in generating substantial quantity of decentralized energy but also have reduced the quantity of waste for its safe disposal. Availability of segregated waste is, however, utmost important for setting up of Waste to Energy Projects. The commercially viable technologies for setting up of waste-to-energy projects are - Anaerobic Digestion/Biomethanation; and Combustion/Incineration.

4. Training Needs Assessment for Capacity Building

The 10th plan document talks about the 74th Constitutional Amendment Act and the lack of its implementation. However, the reason behind such a state needs to be thoroughly understood. One of the major reasons for this is the lack of capability of the staff of the ULBs to handle the devolved responsibilities. The ongoing programs in the 10th Plan, especially the JNNURM, talks about funding capacity building programs in the mission cities. However, in order to completely understand the needs of the ULB staff in capacity building, a training needs assessment study should be conducted first. Such a study would include a detailed analysis of the training requirements of all the personnel working for Urban Development, bringing out a set of areas where training needs to be imparted. Besides, the study would be expected to develop a module based implementation plan of the training program as well as a broad cost estimate for carrying out capacity building across the country.

5. Transparency, Management and lack of data and mapping of Urban Infrastructure

Our Urban Local Bodies are plagued with problems related to transparency and accountability. However, it is important to understand that this is mainly due to the lack of management of data. A lot of planning processes fail due to lack of availability of time series data at the urban scale, based on which development issues could be tackled. Studies are usually based on broadly estimated figures, which can never hope to accurately predict future scenarios and thus result in poor planning.

Besides data, digitized mapping especially of services on accurate land-use maps is also absent. Thus, there is a dire need to address this issue in the upcoming Five-Year Plan. A detailed MIS (Management Information System) and GIS (Geographical Information System) needs to be established at an urban level.

It is also felt that the ULBs need to be mandated to develop such an extensive system.

It is felt that due consideration needs to be given to the above suggestions for holistic urban planning and development.

The Way Forward

During the 10th Five-year plan, the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) was launched, which is an important initiative for fast-tracking development of all issues covered under the gamut of urban development. This initiative is a reform linked program and a number of mandatory and optional reforms are an integral part of this program. Understanding the approach of the JNNURM and other programs in the 10th Plan, it is felt that once the importance of the above mentioned areas is established, its integration with the existing programs can be done with comparative ease.

As a part of the JNNURM initiative, the set of optional reforms covers issues like revision of byelaws to make rainwater harvesting mandatory and byelaws for use of recycled water. It is also felt necessary that eco design principles should be an integral part of the mission outcomes. The building byelaws revision process should also look at energy and water efficiency issues (e.g. use of solar water heating, efficient building materials, provision for maximum daylight, water efficient fixtures etc). Besides, adding clauses in the mandatory/ optional reforms for the development of a detailed MIS and GIS system would result in the development of such a system. Also, an incentive based approach to funding can be used for incorporating the training needs assessment study before actual capacity building is carried out.

TERI is uniquely poised to assist in this exercise due to its experience in most of the above-mentioned areas. TERI has developed a performance measurement system called Urban Services Environmental Rating System (USERS) for the environmental aspects associated with the operations of urban agencies providing the services of water supply and waste (solid waste and waste water) management with a focus on the cities of Delhi and Kanpur. A rating system has been developed for green buildings, namely TERI-GRIHA, which addresses environmental concerns of Indian buildings and has been developed for Indian buildings using Indian codes, standards and best practices. This rating system is being favorably considered by the government for implementation. Besides, TERI's experience in Training Needs Assessment for Urban Transport personnel in the country can be utilized for developing and carrying out such exercises for each of the infrastructure sectors.

It is thus felt that Government Ministries such as the Ministry of Non Conventional Energy Sources (MNES) and the Ministry of Urban Development (MoUD) in association and cooperation with other like organizations such as The Energy and Resources Institute (TERI), National Institute of Urban Affairs (NIUA), Housing and Urban Development Corporation (HUDCO), with the involvement of Urban Local Bodies can be instrumental in achieving sustainable energy and environmental management within the purview of Urban Development.

Annex 1: Solar Energy Technologies and their Applications

1. Solar Water Heating Systems

A solar water heating system of 100 liter/day (lpd) sufficient for a family of 4-5 members can easily replace an electric geyser of 2 KW capacity in a home. Assuming 50% of the geysers remain on at a time, one million solar systems of 100 lpd installed in a big city would result to a peak load shaving of 1000 MW. This will not only help in diverting the saved power to meet other electrical requirements of people in different sectors but will also ensure availability of hot water at times when it is required and the electric geysers do not work because of non availability of power. A potential of 35 million such systems has been envisaged in the domestic sector of the country, which can result in peak load shaving of 35000 MW. Similar potential has been observed in industrial, institutional & commercial sectors which will also have ensured availability of hot water even during power cuts besides having load shaving of another 35000 MW. The ensured availability of hot water in different sectors will help improving the life of people and also the functioning of industrial & commercial sectors.

Steps to be taken

- Municipal Corporations (MCs)/Urban Local Bodies (ULBs) to be pursued to amend building bye-laws to make the use of solar water heating systems mandatory in certain category of new buildings. Plans of buildings to be approved only if provisions for solar water heating are included GOs to be issued and incentives given to MCs/ULBs.
- For old buildings & houses incentives to be given to the users in the form of rebate in property tax on use of solar water heaters.
- Extensive publicity & awareness campaigns to be organized by MCs/ULBs to make people aware of the product.

2. Solar/ Green Buildings

Solar buildings are constructed based on the techniques of solar passive design with a view to provide comfortable living and working conditions, both in winter and in summer. Such energy efficient buildings with an additional cost of 5 to 10% towards passive design features can save significant amount of conventional energy (30 to 40%) that is used for lighting, cooling or heating. In addition, it will contribute to have significant load shavings during peak hours of power demand especially in peak summers and winters. Such buildings can also be integrated with renewable energy devices e.g. solar water heaters, roof integrated SPV systems etc that helps in further conserving the electricity & dependence on it. These buildings have been tried out in a few States as a result of the initiatives taken by the Ministry. Govt. of Himachal Pradesh has made it mandatory to construct all its future buildings using passive design features.

Apart from energy conservation various other aspects such as site planning, building envelope design, waste and water management, selection of ecologically sustainable materials, quality of indoor ambience could also be looked into in an integrated way towards designing of a building so as to name it as a Green/Sustainable building. Large-scale promotion of such buildings will help in

sustainable development of the cities and towns in the country. A Rating System to assess "how Green are these Buildings" is therefore, under promotion by TERI and also by CIII – Godrej, Green Business Centre, Hyderabad which is being linked with incentives and the awards.

Steps to be taken

- *Issuing of Govt. Orders for mandatory construction of Green buildings atleast in govt./ public sectors by various State Govts. (Governments of H.P. and Haryana issued Orders for construction of energy efficient solar buildings)*
- *Incorporation of passive features, energy efficient electrical devices and active solar systems in National Building Codes and Energy Conservation Building Codes*
- *Publicity and awareness campaign by the State Govts. and concerned authorities*
- *Providing incentives to owners by MCs/ULBs in terms of Rebate in property tax/Awards to best performing Green Buildings based on the indigenous Rating system*

3. Solar air heating/steam generating system in industries

Solar air heating systems based on flat plate evacuated tube collectors have been found to be very useful especially in the agricultural and food industries. These industries generally require hot air at low temperature (50-80°C) as process heat for drying of various products such as tea leaves/ coffee beans and also for processing of fruits, spices, cereals, mushroom, papad, vegetables, fish, seafood etc. Hot air is also required in industries such as leather, textile, chemicals, rubber, paper, pharmaceuticals etc. The systems installed in industries along with their conventional systems for drying of various products can save a significant amount of fuel apart from improving the quality of the end product and reducing environmental pollution. This also helps them in reducing dependence on electricity, thereby improving their performance.

Solar concentrating systems comprising parabolic dishes focus sunlight on to the receivers to generate steam from the water circulating in them. The systems can also be used for heating oil/ air for various applications in industries and commercial establishments where heat requirement is above 80°C. They have been found to be useful for generating steam to cook food for thousands of people in community kitchens especially at religious places such as Shirdi, Mount Abu, Tirupati etc. The world's largest system is functioning at Tirupati for cooking food for 15,000 people per day. The systems installed in hybrid mode can help in saving a large amount of conventional fuel in industries and institutions besides reducing dependence on conventional fuel.

Steps to be taken

- All industries & commercial establishments requiring hot air or steam for drying/process heat applications to be persuaded by MCs to install such systems alongwith their existing systems.

- Business meets/publicity & awareness campaign to be organized to generate demand among industries.

4. Solar Photovoltaic Devices/Systems including Roof Integrated PV Systems

Solar photovoltaic (SPV) technology enables the direct conversion of solar radiation into electricity. A variety of solar photovoltaic devices/systems have been developed which can be deployed in urban areas for the purpose of uninterrupted power supply for various applications, and also for reducing the burden on conventional electricity. This will not only help in improving the conditions of the cities but may also make people/institutions self dependent as regards to availability of power for their needs. The applications in urban areas include:

- i) Streetlights/ garden lights for out-lying areas, unlit roads or at selected locations to ensure minimum lighting in case of any exigency such as power cuts and also to avoid any security threat to the public. They can also be used for lighting public gardens and lawns.*
- ii) Streetlight solar control systems for automatic switching off/ on of the streetlights during evenings and mornings.*
- iii) Illuminated hoardings to work for 4 to 6 hours a day.*
- iv) Traffic signal systems to avoid frequent breakdowns in power supply leading to failure of conventional traffic lights and consequent chaos in the flow of traffic.*
- v) Road studs for uninterrupted functioning from dusk-to-dawn.*
- vi) Blinkers for installation at blind intersections, ahead of road humps, sharp bends/ U-turns, pedestrian crossings, etc.*
- vii) Roof integrated PV systems in institutional & commercial buildings for the purpose of meeting their own demand of electricity and also having load shaving during peak hours*
- viii) Solar power packs to replace small generators based on kerosene and petrol in shops, clinics and banks for lights, fans, computers, etc. or other emergency requirements.*

Steps to be taken

- i) State Govts. to be persuaded to issue G.Os. for promotion of above mentioned solar energy devices/systems in their areas wherever possible.*
- ii) Municipal Corporations/ Police Departments to be requested to provide rebate in license fee/rental charges from advertisers that use SPV hoardings*
- iii) Corporate Sector to be pursued to promote SPV devices/systems in their premises*

**PLAN WISE INVESTMENT – WATER SUPPLY AND SANITATION
SECTOR**

(Rs. Crore)

Sl. No	Plan period	Total public sector plan outlay	Total plan outlay for water supply & sanitation sector		Plan outlay for Urban Water Supply and Sanitation		Plan outlay for Rural Water Supply and Sanitation	
			Amount	% of public sector outlay	Amount	% of public sector outlay	Amount	% of public sector outlay
			Col.4 ----- X 100 Col.3		Col.6 ----- X 100 Col.3		Col.8 ----- X 100 Col.3	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	I Plan (1951-56)	3360.00	49.00	1.46	43.00	1.28	6.00	0.18
2	II Plan (1956-61)	6750.00	72.00	1.07	44.00	0.65	28.00	0.41
3	III Plan (1961-66)	8573.00	105.70	1.23	89.37	1.04	16.33	0.19
4	3 Annual Plans (1966-69)	6664.97	106.42	1.60	N.A.	N.A.	N.A.	N.A.
5	IV Plan (1969-74)	15902.00	437.00	2.75	282.00	1.77	155.00	0.97
6	V Plan (1974-79)	39303.49	1030.68	2.62	549.44	1.40	481.24	1.22
7	Annual Plan (1979-80)	12549.63	430.22	3.43	197.93	1.58	232.29	1.85
8	VI Plan (1980-85)	97500.00	4047.00	4.15	1766.68	1.81	2280.32	2.34
9	VII Plan (1985-90)	180000.00	6522.47	3.62	2965.75	1.65	3556.72	1.98
10	2 Annual Plans (1990-92)	137033.15	4427.29	3.23	1721.37	1.26	2705.92	1.97

11	VIII Plan (1992-97)	434100.00	16711.0 3	3.85	5982.28	1.38	10728.7 9	2.47
12	IX Plan (1997- 2002)	859200.00	39538.0 0	4.46	18624	2.16	20914.0 0	2.43
13	X Plan (2002- 2007)	1525639.0 0	44206.5 5	2.89	19758.5 5	1.30	24448.0 0	1.60

Source: Planning Commission.

ASSESSMENT OF FUND REQUIREMENT FOR URBAN WATER SUPPLY**Assessed population to be covered :**

Urban Water Supply	Population	
	Percent	Millions
Status as of 31.3.2004		
Estimated urban population		307.48
Population covered with Water Supply	91%	279.81
Uncovered Population	9%	27.6
<i>Anticipated coverage at the end of Tenth Plan (31.3.2007)</i>		
Estimated urban population	100%	328.62
Assuming that about 91% of population could only be covered at the end of Tenth Plan due to rapid urbanization including merging of peripheral areas of the main town	91%	299.04
Population yet to be covered	9%	29.58
<i>Target at the end of Eleventh Plan (31.3.2012)</i>		
Estimated urban population		365.36
Population to be covered with new facilities during the plan period including uncovered population at the start of 11 th Five Year Plan, increase in population during 11 th Five Year Plan and the population covered with water supply facilities prior to 1981.		181.80
- uncovered population - 29.58		
- Increase in population (365.36 – 328.62) - 36.74		
Population covered with water supply facilities prior to 1981 and needing complete replacement (148.45 X .778) - 115.48		
Population to be provided with augmentation including rehabilitation assuming 50% of covered population (during 1981-2004) needs augmentation (307.48 X 0.91 – 148.45 X .778) X .50		82.16

Fund Requirement for Urban Water Supply ;:

It has been estimated that by the end of Year 2012 AD, the urban population of the country will be around 365.36 million. On the basis of the information received from the States and Union Territories, it has been assessed that 91% (Annex-V) urban population would be covered with water supply facilities as on 31.3.2004. For achieving 100% population coverage with water supply facilities by the end of 11th Five Year Plan i.e. 31.3.2012 and taking into account the urban population already covered with water supply facilities, the requirement of funds has been assessed as detailed below.

- (i) Additional population to be provided with water supply facilities

(181.80 million population x Rs. 2500), : Rs.4,54,500 million

- (ii) Augmentation/rehabilitation facilities for covered population

(82.16 million x Rs. 1000) : Rs.82,160 million

Total funds required for urban water supply : Rs.5,36,660 million

Say Rs. 53,666 crore

**ASSESSMENT OF FUND REQUIREMENT FOR URBAN
SEWERAGE & SANITATION**

Assessed population to be covered

Urban Sewerage & Sanitation	Population	
	Percent	Millions
<i>Status as of 31.3.2004</i>		
Estimated urban population		307.48
Access to Sewerage and Low Cost Sanitation facility (which consists of 48% with sewerage and 52% LCS etc.)	63%	192.84
Population covered with Sewerage (48% of above population)	0.48	92.56
Population covered with LCS (52% of above population)	0.52	100.28
Balance to be provided with new facility	37%	114.64
<i>Anticipated coverage at the end of Tenth Plan (31.3.2007)</i>		
Estimated urban population	100%	328.62
Assuming that about 63% of population could only be covered due to rapid urbanization including merging of peripheral areas of main town	63%	207.03
Population yet to be covered	37%	121.59
<i>Target at the end of Eleventh Plan (31.3.2012)</i>		
Estimated urban population		365.36
Population to be covered with new facilities during the plan period assuming 100% target, (70% Sewerage + 30% LCS) which includes uncovered population at the start of 11 th Five Year Plan, increase in population during 11 th Five Year Plan and the population covered with sanitation facilities prior to 1981.		198.26
- uncovered population - 121.59		
- Increase in population - 36.74		
- Population covered with sanitation facilities prior to 1981 and needing complete replacement (148.45 X .269) - 39.93		
Out of aforesaid targeted population, the population to be covered with sewerage system (70%)		138.78
--do--with low cost sanitation (30%)		59.48
Population to be provided with rehabilitation assuming 50% covered population during (1981-2004) needs augmentation (307.48 X .63 - 148.45 x .269))		153.78

Funds requirements for Sewerage and Sanitation facilities :

In regard to sewerage and sanitation facilities, it is assessed that about 63% of the urban population would have been provided with sewerage and low cost sanitation facilities by the end of 10th Five Year Plan (i.e.31.3.2007). It is proposed that by the end of the 11th Five Year Plan (i.e., 31.3.2012) about 100% of the urban population would be provided with sewerage and low cost sanitation facilities in the urban areas. Moreover, the population already provided by the end of the 9th Five Year Plan would need augmentation/rehabilitation of these systems, which would be around 50%. As per these assumptions, the funds required for providing sewerage and sanitation facilities in the urban areas to cover an overall coverage of 100% population are as follows:

- | | | |
|------|---|---------------------|
| (i) | Funds required for providing new sewerage facilities (138.78 million population x Rs. 3000) | Rs.4,16,340 million |
| (ii) | Funds required for providing low cost sanitation facilities (59.48 million population) | - |

(Subject transferred to M/o of UEPA and would reflect in that ministry fund requirement assessment)

- | | | |
|-------|---|------------------------|
| (iii) | Funds required for augmentation facilities for sewerage (76.89 million population x Rs. 1500) | : Rs. 1,15,335 million |
|-------|---|------------------------|

<i>Total funds required</i>	:	<u>Rs.5,31,675 million</u>
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Say Rs. 53,168 crores

ASSESSMENT OF FUND REQUIREMENT FOR URBAN DRAINAGE

Assessed population to be covered

Urban Drainage	Population	
	Percent	Millions
Status as of 31.3.2004		
Estimated urban population		307.48
Access to drainage facility assumed	65%	199.86
Balance to be provided with new facility	35%	107.62
Anticipated coverage at the end of Tenth Plan (31.3.2007)		
Estimated urban population	100%	328.62
Assuming that about 65% of population could only be covered effectively due to rapid urbanization including merging of peripheral area of the main town	65%	213.60
Population yet to be covered	35%	115.02
Target at the end of Eleventh Plan (31.3.2012)		
Estimated urban population		365.36
Population to be covered with new facilities during the plan period		115.02
Increase in population (365.36 – 328.62)		36.74
Population to be provided with rehabilitation assuming 50% covered population as of 2004 needs augmentation		99.93

Funds requirements for Urban Drainage

In regard to Urban Drainage, it is assumed that the facilities are available to about 65% of the urban population in the country by the end of the 10th Five Year Plan. It is proposed to provide 100% of the population with drainage facilities in the urban areas by the end of the 10th Five Year Plan. Moreover, some percentage of the population that has already been provided with drainage facilities up to end of 9th Five Year Plan would need rehabilitation, which would be around 50% of the said population. On these assumptions, the fund required for providing drainage facilities in the urban areas to cover 100% population with drainage facilities by the end of 11th Five Year Plan is as follows:

	(Rs. in Million)
1) Funds required for providing new drainage facilities for additional 151.76 million population (151.76 million X Rs. 1000)	Rs. 1,51,760
2) Funds required for providing rehabilitation of drainage facilities 99.93 million population (99.93 million X Rs. 500)	Rs. 49,965
Total	Rs. 2,01,725
	Say Rs. 20,173 crore

ASSESSMENT OF FUND REQUIREMENT FOR SOLID WASTE MANAGEMENT

Assessed population to be covered

Solid waste management		Population	
		Percent	Millions
1.	Increase in population of 423 Class-I cities over 2001 census population upto 2012 @ 3% per annum	$172.04 \times 0.03 \times 11 = 56.78$	million
2.	Population of class-II town in 2012 (498 towns)	$34.43 \times (1 + (0.03 \times 11)) = 45.79$	million
	70% of population to be provided with new facilities	32.05	million
3.	Population of class-III towns in 2012 (1386)	$41.97 (1 + (.03 \times 11)) = 55.83$	million
	70% of population to be provided with new facilities	39.08	million
	Total population to be provided with new facilities		
	Class-I	56.78	million
	Class-II	32.05	million
	Class-III	39.08	million

Fund requirement for Solid Waste Management:

The upgradation/ modernization of Solid Waste Management practices in all the 423 Class-I cities (as per 2001 Census) has already been taken up on priority basis during the 10th Five Year Plan as per the directive of the Hon'ble Supreme Court of India.

In order to facilitate / assist Urban Local Bodies in Management of Municipal Solid Waste and Sanitation, the Ministry of Urban Development had requested the 12th Finance Commission for devolution of Central Grant to Urban Local Bodies for the purpose.

	Cities with Population between 0.1 to 0.5 million	Cities with Population between 0.5 to 1 million	Cities with Population between 1 to 2 million	Cities with Population between above 2million		Total
Number of Class-I Cities in each category	354	42	14	13	6 Nos. State Capital	423
Estimated capital investment (in Rs. Million)						
1. Equipment and vehicle	954.91	1129.80	646.10	1128.85	4.76	3864.43
2. Composting of waste	5310.00	1890.00	980.00	1820.00	12.35	10012.35
3. Landfill development	3876.30	2299.50	1533.00	2847.00	13.03	10568.83
Total (in Rs. Million)	10141.21	5319.30	3159.10	5795.85	30.15	24445.62

The 12th Finance Commission has recommended devolution of Central Grant to the tune of Rs. 2500 crore for Solid Waste Management and Sanitation.

This proposes to provide appropriate Solid Waste Management system in 423 Class-I cities as per 2001 Census. This would take care of at least 75% of the 1.15 lakh tonnes Municipal Garbage generated in the country every day.

In addition to the allocation of Rs. 2500 crore under 12th Finance Commission grants, the following amount also needed to cover the envisaged population at the end of 11th Five year plan.

Additional Fund Requirement over and above Rs. 2500 crore allocated under 12th Finance Commission Grants:

	(Rs. In millions)
i) Increase in population of 423 class-I cities over 2001 census population upto 2012 X per capita cost (56.78 million X Rs. 200)	11356.00
ii) Population of class-II town in 2012 (only 70%) X per capita cost (32.05 million X 0.7 X Rs.150)	3365.25
iii) Population of class – III towns in 2012 (only 70%) X per capita cost (39.08 million X 0.7 x Rs.150)	4103.40
iv) Population of class – IV,V &VI towns in 2012 (only 70%) X per capita cost (31.39 million X .7x 150)	3295.95

Total 22120.6

Say Rs. 2,212 crore

ASSUMPTIONS MADE FOR ASSESSING FUND REQUIREMENTS

1. Water Supply

1. Total urban population as projected by Registrar General, Census office, Gol for years 2004, 2007 and 2012 has been adopted for estimating the investment needs.
2. Population covered by water supply facilities before 1981 (77.8% of 1981 population) has been considered for full replacement of infrastructure, presuming that infrastructure available before that time has outlived its useful life.
3. However, 50% population covered with water supply facilities during 1981-2004 has been considered for Rejuvenation & Augmentation (R&A) of existing water supply facilities.
4. Unit cost per person for new facility is considered as Rs.2500/-.
5. Unit cost per person for R&A facility is considered as Rs.1000/-.
6. Extent of coverage with water supply facilities assessed at the end of 31.3.2004 has been retained at the start of 11th Five Year Plan viz on 1.4.2007 assuming that increase in population during this period would nullify the increase in coverage.
7. Population left uncovered at 1.4.2007 is proposed to be provided with new facilities along with the growth in population during 2007-2012.

2. Sewerage, sewage treatment & sanitation

1. Population to be considered for new Sewerage, sewage treatment and Low Cost Sanitation facility is in the ratio of 70:30.
2. Population covered with sanitation facilities before 1981 (26.9% of 1981 population) have been considered for full replacement of infrastructure presuming that due to low population projection, lack of adequate O&M and various other factors, the infrastructure have outlived its useful life and needs full replacement.
3. However, 50% of population covered with sanitation facilities during 1981-2004 have been considered for Rejuvenation and Augmentation (R&A) of existing facilities.
4. Unit cost per person for new Sewerage and sewage treatment facility would be Rs. 3000/-.

5. Unit cost per person for augmentation of existing Sewerage and sewage treatment facility would be Rs. 1500/-.

3. Drainage

1. It is assumed that till 31.3.2004, only about 65% of the urban population is having access to drainage facility in the country. The same percentage of coverage is adopted at the start of Eleventh Five Year Plan viz. 2007.
2. Rehabilitation of existing drainage facility would be needed for about 50% of the existing facility.
3. Unit cost per person for providing new drainage facility would be Rs.1000/-.
4. Unit cost per person for rehabilitation of existing drainage facility would be Rs.500/-.

4. Solid Waste Management

1. It is assumed that 423 class-I cities population as per 2001 census would be covered under the Twelfth Finance Commission Grants at the end of Eleventh Plan viz. 2012.
2. Increase in population over 2001 census population up to 2012 would be covered with new facilities during 11th Plan.
3. Population of all class II & III town at the end of eleventh Plan would be covered with SWM facilities during the eleventh Plan.
4. For class-II & III towns, it is assumed that infrastructure is available with ULB to take care 30% of population and rest 70% is proposed to be covered.
5. Per capita cost of providing SWM facilities is taken as the figure adopted for calculating 12th Finance Commission Grants. Reduction in per capita cost due to smaller size of towns compared to class-I cities is presumed to be nullified by inflation in per capita cost adopted.

Proposal for setting up of MIS-cell in CPHEEO, MOUD for creation & maintaining data base on water supply, sewerage, drainage and solid waste management in urban areas of the country.

For effective planning and development of any sector, availability of a strong data base is a primary requirement. The more accurately we are able to analyze the ground situation, better we can plan for the sector. With the growing importance of water supply and sanitation sector and the thrust given by Gol to this sector, it had been a long felt need to have a strong data base on urban water supply, sewerage and sanitation including solid waste management and allied data on urban areas, at central level, so that ground situation of the sector in the country can be precisely analyzed and effective measures might be taken for the development of the sector including effective planning for 100% coverage of population with water supply, sewerage and solid waste management. Availability of strong data base would help in prioritizing the most needy target groups and thus appropriate planning to ensure that these basic amenities reach to every urbanite.

With the above background, it is proposed to set-up an MIS-cell in CPHEEO and similar cells would be set up in all states / ULBs and would be connected through IT, so as to collect and update the data on coverage of water supply and sanitation sector and other relevant information periodically. This data base would be of immense use for the development of sector at National level.

In the past also efforts have been made by CPHEEO to develop such a data base requesting the States / ULBs to furnish requisite data. But response from them had not been encouraging, perhaps, because of non-availability of data readily with State or due to lack of dedicated infrastructure for collection / compiling and forwarding the same to the Ministry.

In view of this, it is proposed to put in place an effective mechanism of data collection through creation of MIS cells, so as to develop a strong data base at National and State level.

The following infrastructure / manpower is required along with the tentative cost estimates given below during 11th five year plan.

**A) REQUIREMENTS OF FUNDS FOR SETTING UP MIS CELLS
DURING F.Y. 2007-08**

ESTIMATED COST OF CREATION OF CENTRAL MIS CELL AT CPHEEO

(Amount in lakh)	
Item	Amount
Furnishing of MIS cell with furniture / other accessories (almirah, table etc).	2.00
Server	2.50
Computer along with accessories, printer etc.	1.00
One AA (PHE), one Data Entry Operator with one Programmer	6.60
Travel expenses	11.00
Unforeseen contingencies	2.00
Total	Rs.14.10 lakh

ESTIMATED COST OF CREATION OF MIS CELL IN EACH STATE

Creation of cell in CE office / Secretary office (creation of chamber, cupboard, table, chair and other accessories)	4.00
Computer along with accessories, printer etc.	1.00
Cost of stationery / floppy, correspondences etc.	0.50
Cost of traveling / transport etc.	1.00
Cost of hiring man power viz. one Data Entry operator / one assistant Engineer to compile data	5.00
Unforeseen items & contingencies	0.50
Total	12.00
Total budget for states / UT = 12 X 35	420.00
Grand Total for setting up MIS network = (420 + 14.10)	434.10
Or say	Rs. 4.4 crore

B) RECURRING EXPENSES FOR REMAINING FOUR YEARS OF 11TH PLAN PERIOD:

One AA (PHE), one Data Entry Operator with one Programmer	6.60
Travel expenses	11.00
Cost of hiring man power viz. one Data Entry operator / one assistant Engineer to compile data at State level	5.00
Unforeseen contingencies	2.00
<i>Sub-Total</i>	25.60
For remaining 4 years of 11 th plan period (4 x 25.60 = 102.40 lacs)	Rs. 1.02 crore
	Say Rs. 1.00 crore

C) TRAINING EXPENSES FOR PERSONNEL INVOLVED IN COLLECTING AND UPDATING DATA DURING 11TH PLAN PERIOD:

Training of personnel at state level (on an average for 2 personnel from each ULB x 10 lac x 29 states and including agency charges)	290.00
Say	Rs. 3.00 crore

Grand total = Rs.4.4 + 1.0 + 3.0 = 8.4 crore

REQUIREMENT OF FUNDS FOR R & D AND PHE TRAINING PROGRAMME DURING 11TH PLAN

A) Research & Development Programme:

Research & Development (R&D) play a vital role in the overall development of water supply & sanitation sector. R&D is essential to bring out through studies/research better designing, appropriate technology for cost reduction, status of water supply & sanitation facilities, water quality monitoring etc.

The Ministry has sponsored various research studies to academic and research institutes on the aspects of water supply & sanitation including solid waste management. So far 22 research studies have been completed. During 9th and 10th Plan, 6 (3+3) research studies have been completed. The expenditure incurred on R&D during 9th and 10th plan period respectively is Rs.1.43 crore and Rs.0.86 crore* (* including anticipated expenditure of 2006-07).

Proposal during 11th Plan:

Following R & D projects are proposed to be undertaken during 11th plan:

1. Research studies on computer aided design of water supply and sewerage systems, life cycle analysis of different pipes used in water supply schemes, emerging technologies, low cost and appropriate technology on water supply and sanitation, performance indicator, re-use and re-cycle of waste water, socio-economic aspects of water supply system, etc.
2. Pilot study for various options of treatment of municipal sewage in decentralized manner.
3. Pilot study for composting of organic waste/kitchen/food waste in decentralized manner.
4. Study to assess drinking water quality in selected small & medium towns in States.
5. To review the quality of ground water in selected cities/towns of Tamil Nadu, Andhra Pradesh, Uttar Pradesh, Bihar, Gujarat, Rajasthan & West Bengal, where ground water is the main source of water for drinking purpose.

Based on past experience, the proposed fund requirement for aforesaid R&D activities during 11th Five Year Plan is estimated at Rs. 5 crore.

B) Public Health Engineering (PHE) Training Programme :

For any programme to be successful in the long run, qualified and adequately trained and experienced personnel are a must. In the field of Public Health Engineering (PHE), this requirement is much more important as it involves health of the community and improvement of aesthetic quality of human life which would facilitate after developmental activities.

PHE training is essential for better planning, designing, appraisal, management, O&M of water supply & sanitation facilities, in order to meet the criteria of cost effectiveness and efficient operation and maintenance. Keeping this in view, the Ministry of Urban Development has made concerted efforts to promote PHE training programme since its beginning in 1956. The coverage and training needs of personnel have increased considerably over the years.

In order to cater to the needs of the in-service engineers engaged in the field of PHE activities in various State water supply & sanitation departments including Urban Local Bodies, the following training programmes have been introduced and are being conducted annually through academic & research institutes and training centres of field departments:

- i) Post Graduate Course in the PHE/ Environmental Engineering. The duration of the PG course is two years. There are 11 recognized institutes where in-service engineers are sponsored for undergoing the course.
- ii) Short Term Course in PHE/ Environmental Engineering in two institutes. The duration of the course is three months.
- iii) Refresher Courses on various aspects of designing, operation and maintenance of water supply and sanitation facilities are conducted by 20 recognized academic & research institutes and field departments. The duration of the course vary from one week to four weeks.

2) Achievement in PHE Training Program :

Annually, over 1200 in-service engineers are trained in the above courses. Number of in-service engineers trained and expenditure incurred during 9th and 10th Plan is given below:

Plan period	No. of In-service Engineers Trained.
1. 9 th Plan (1997-2002)	6401
2. 10 th Plan (2002-07)	6500

About 30,600 in-service engineers have been trained under the PHE Training Programme till 31st March, 2006.

Plan Period	Expenditure (Rs. in crore)
1. 9 th Plan (1997-2002)	4.60
2. 10 th Plan (2002-07)	4.80 [including anticipated expenditure of 06-07]

3. Justification for continuation of the PHE training programme :

- Govt. of India from time to time have been implementing various programmes for increasing the provision of drinking water supply & sanitation facilities to the community, such as AUWSP (now subsumed with UIDSSMT), JNNURM, Solid Waste Management in 10 Air Field Towns etc. The infrastructures which are being developed by various ULBs/State departments for drinking water supply, sewerage, sanitation, drainage, solid waste management etc. will need more number of qualified and trained manpower for better designing, speedy implementation of all the schemes in economical manner and also for proper operation & maintenance of old as well as new projects/infrastructure developed.
- Junior to middle level engineers including those joined in the department recently need to undergo various short-term courses periodically to refresh their knowledge, share/gain experiences.
- Many State departments/ULBs do not have training centres/ facilities of their own and these utilities depend upon PHE Training of the M/o Urban Development. Even the State departments having own Training centres depute their engineers to undergo Ministry's sponsored various training courses.

In view of the above, it is necessary that the PHE training program is continued during 11th Five Year Plan as well for which higher allocation of fund is needed so that some more training institutes can be recognized and also to increase the training courses to train more field engineers in light of thrust given to this sector by government of India.

Proposal for 11th Five Year Plan:

- To impart training to over 7000 field engineers.
- To recognize a few more academic institutions for conducting Post Graduate course so that more in-service engineers in different regions get higher technical qualification.
- To increase number of refresher courses of duration one week to four weeks from 64 (during 2006-07) to 70-75 courses annually on different topics to impart training to more field engineers.
- Financial norms for sanction of grant-in-aid, as on date, have been approved about 10 years back during 1996-97. It is necessary to

revise the financial norms to increase the rate of stipend, honorarium to lecturer, preparation of course material, honorarium to staff etc for smooth conduct of the courses and to provide incentive to trainees.

In view of the above, it is proposed to allocate Rs.8 crore for PHE training programme during 11th Plan Period.

ANNEXURE-VII

STATUS OF URBAN WATER SUPPLY AND SANITATION - INDIA
STATUS OF URBAN POPULATION HAVING ACCESS TO WATER SUPPLY, SEWERAGE & SANITATION
FACILITIES AS OF 31.3.2004.
(POPULATION IN '000) (TENTATIVE)

S.NO	NAME OF STATE/U.T	ESTIMATED POPULN. AS OF 31.3.2004	POPULATION PROVIDED WITH WATER SUPPLY* THROUGH				POPULATION PROVIDED WITH SEWERAGE & SANITATION FACILITIES			
			H.S.C.	P.S.P	TOTAL	%	SEWER	L.C.S	TOTAL	%
1	2	3	4	5	6	7	8	9	10	11
1	ANDHRA PR.	15105	7988	4730	12718	84	825	7702	8527	56
	ANDHRA PR	6556	4956	944	5900	90	4282	372	4655	71
	ANDHRA PR	21661	12944	5674	18618	86	5107	8074	13182	61
2	ARUNACHAL	271	132	37	169	62	0	154	154	57
3	ASSAM	3761	660	200	860	23	15	258	273	7
4	BIHAR	9194	3213	4282	7495	82	491	4775	5266	57
5	JHARKHAND	6403	2258	2993	5250	82	328	3321	3650	57
6	DELHI	14213	10985	3228	14213	100	6585	730	7315	51
7	GOA	738	581	58	639	87	49	193	242	33
8	GUJARAT	20379	15977	3994	19971	98	10871	348	11219	55
9	HARYANA	6801	4740	837	5577	82	3319	594	3913	58
10	HIMACHAL P.	674	592	82	674	100	310	249	559	83
11	J & K (KASH)	3071	2771	115	2887	94	1299	144	1443	47
12	KARNATAKA	12550	7082	3215	10297	82	3605	4912	8517	85
	KARNATAKA	6638	3833	1278	5111	77	2907	1075	3983	60
	KARNATAKA	19188	10915	4493	15408	80	6512	5987	12500	65
13	KERALA(200	8450	2907	3853	6760	80	376	7144	7521	89
14	MADHYA PR	17167	9884	5566	15450	90	1717	12017	13734	80
15	CHATTISGA	4591	2643	1489	4132	90	459	3214	3673	80
	MAHARASH	31790	22030	9442	31472	99	15666	4679	20346	64
	MAHARASH	12480	6240	6240	12480	100	5390	5006	10396	83
16	MAHARASH	44270	28270	15682	43952	99	21056	9685	30742	69
17	MANIPUR	592	377	195	572	97	0	572	572	97
18	MEGHALAYA	479	254	181	435	91	20	96	116	24
19	MIZORAM	468	280	95	375	80	0	185	185	40
20	NAGALAND	356	222	0	222	62	0	198	198	56
21	ORISSA	5905	1600	3100	4700	80	300	499	799	14
22	PUNJAB	8958	6500	400	6900	77	4393	3816	8209	92
23	RAJASTHAN	14120	11296	2824	14120	100	1115	10039	11155	79
24	SIKKIM	66	65	1	66	100	46	0	46	70
	TAMIL NADU	24180	10625	12679	23304	96	1926	13052	14978	62
	TAMIL NADU	6038	5193	604	5797	96	5918	0	5918	98
25	TAMIL NADU	30218	15818	13283	29101	96	7844	13052	20896	69
26	TRIPURA	586	192	355	547	93	0	200	200	34
27	UTTAR PRAI	37261	18075	18813	36888	99	13833	6660	20494	55
28	UTTARANCH	2362	1664	698	2362	100	741	381	1122	48
	WEST BENG	16043	5455	9626	15080	94	2888	5134	8022	50
	WEST BENG	7388	1118	4116	5234	71	1330	2364	3694	50
29	WEST BENG	23431	6573	13742	20314	87	4218	7498	11716	50
	TOTAL STAT	305634	172390	106269	278659	91	91005	100086	191091	63

UNION TERRITORIES										
1	A & N ISLANDS	135	98	9	107	79	0	108	108	80
2	CHANDIGARH	898	584	314	898	100	808	90	898	100
3	DADRA & NAGAVELI	70	20	20	40	57	0	0	0	0
4	DAMAN & DIU	65	9	1	10	15	0	0	0	0
5	LAKSHADWEEP	28	0	19	19	68	0	23	23	82
6	PONDICHERY	686	565	108	672	98	123	563	686	100
TOTAL U.T.s		1882	1275	471	1746	93	932	783	1715	91
GRAND TOTAL		307516	173666	106740	280406	91	91937	100869	192806	63

REMARKS

H.S.C - HOUSE SERVICE CONNECTION P.S.P - PUBLIC STAND POST L.C.S - LOW COST SANITATION
SEPTIC TANK ETC.

Annexure - VIII

No. PC/H/8/3/2005
Planning Commission
(HUD Division)

Yojana Bhavan, Sansad Marg,
New Delhi, dated 1.05.2006

Order

Subject:- Constitution of Working Group on Urban Development (excluding Urban Transport), Urban Water Supply and Sanitation (including low cost sanitation, sewerage and solid waste management) and Urban Environment for Eleventh Five Year Plan (2007-2012).

In the context of formulation of the Eleventh Five Year Plan (2007-2012), it has been decided to set up a Working Group on Urban Development (excluding Urban Transport), Urban Water Supply and Sanitation (including low cost sanitation, sewerage and solid waste management) and Urban Environment for Eleventh Five Year Plan (2007-2012). The composition of the Working Group will be as follows:-

1.	Secretary, Ministry of Urban Development	Chairman
2.	Adviser (HUD), Planning Commission	Member
3.	Pr. Adviser (DP), Planning Commission	Member
4.	Additional Secretary, Ministry of Urban Development	Member
5.	Adviser (Water Resources), Planning Commission	Member
6.	Addl. Secretary & Project Director, National River Conservation Dtc.	Member
7.	Member-Secretary, NCRPB	Member
8.	Joint Secretary, Ministry of UEPA.	Member
9.	Smt Reema Prakash, Director, Department of Expenditure, Ministry of Finance	Member
10.	Representative of Ministry of Health	Member
11.	Representative of Ministry of Non-Conventional Energy Sources	Member
12.	Representative of Ministry of Science & Technology	Member
13.	Representative of Ministry of Consumer Affairs	Member
14.	Representative of Central Ground Water Board	Member
15.	Representative of Ministry of Development of NE Region	Member
16.	CMD, HUDCO	Member
17.	Chief Planner, TCPO.	Member
18.	Adviser (PHEE), CPHEEO, Deptt. of Urban Development	Member
19.	Commissioner (PP), Ministry of Water Resources	Member
20.	Principal Secretary (Urban Development), Government of Maharashtra	Member
21.	Principal Secretary (Urban Development), Government of NCT Delhi	Member
22.	Principal Secretary (Urban Development), Government of Tamil Nadu	Member
23.	Principal Secretary (Urban Development), Government of Uttar Pradesh	Member
24.	Principal Secretary (Urban Development), Government of Tripura	Member
25.	Principal Secretary (Water Supply), Government of Gujarat	Member
26.	Principal Secretary (Pollution Control), Government of West Bengal	Member
27.	Prof. O.P. Mathur, National Institute of Public Finance & Policy	Member

28. Shri V.B.Ramaprasad, Retired Adviser (CPHEEO), Nagpur	Member
29. Shri A.D. Bhide, Ex-Scientist NEERI	Member
30. Shri V. K. Gupta, Retd Chief Engineer, PWD, Govt of Haryana	Member
31. Director (NIUA)	Member
32. Director, Central Water Commission	Member
33. Joint Secretary, Ministry of Urban Development	Member-Secretary

2. The terms and reference of the Working Group are as follows:-

Urban Development (excluding Urban Transport)

1. To review critically the policies, performance of various schemes and programmes during the Tenth Five Year Plan in the Urban Development Sector, including foreign aided schemes with particular reference to the achievements of prescribed objectives, targets and pinpoint the short comings.
2. To suggest necessary modification in the schemes, if any, required for better implementation.
3. To review the follow-up action of the 74th Constitutional Amendment which envisaged effective decentralization of the functions to the Municipalities including authorization to levy, collect and appropriate taxes and duties to augment the resources of ULBs as part of Urban Sector reforms.
4. Review of implementation of reforms by States and ULBs; to review preparation of city development plans; Review of steps already initiated for provision of infrastructure and e-governance in mission cities and non-mission cities under Jawaharlal Nehru National Urban Renewal Mission (JNNURM). To suggest priorities under these programmes and to estimate outcomes which would be achieved under this mission during Eleventh Plan.
5. To suggest objectives, policies, strategies and programmes for the improvement of Urban Development Sector during the Eleventh Five Year Plan.
6. To make recommendation regarding land use planning; to suggest integration of land use planning with transportation planning.
7. To suggest policies to be followed regarding new towns.

Urban Water Supply/Sanitation/Solid Waste Management

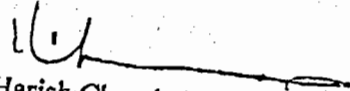
1. To make a realistic assessment of the current availability of water supply and sanitation facilities including sewerage and sewage treatment, low cost sanitation and solid waste management in urban areas of the country and to identify the main problems and weaknesses, if any, in the current policies, programmes and schemes.
2. To formulate objectives, policies, strategies and methodology for the Eleventh Five Year Plan, suggest modifications, if any, in the existing schemes, formulate new programmes, designed to address the specific problems in the urban water supply and sanitation. Policy issues that may be considered in addressing the given terms of reference may particularly include:-
 - a) A realistic assessment of the extent to which contribution may be made by the beneficiaries and to suggest measures for additional resource mobilization through financial institutions, private sector efforts, special levies and cess etc.

- b) Emphasis be given to low cost technology options including indigenously developed alternatives and age-old community based practices to reduce the gap between demand and supply. Emphasis also be given to sustainability of the programmes/schemes. Ways and means be identified to remove regional imbalances in provision of these facilities.
 - c) The concept of Zero Based Budgeting could be adopted while undertaking a review of all the on-going and proposed Central Sector and Centrally Sponsored Schemes for the Eleventh Plan. Convergence of related Central Sector and Centrally Sponsored Schemes within the Sector as well as across the Sectors so as to obviate any duplication of effort and a thin spread of resources, as also to reduce the overhead cost could be pursued with renewed emphasis.
3. To suggest appropriate technologies for effective utilization of the limited resources available, in particular, appropriate guidelines for selecting technologies which are technically and economically viable and socially acceptable and affordable and to suggest steps for extensive use of such technologies, to suggest areas of further R&D/S&T for improvement of the sector.
 4. To review the existing infrastructure, administrative and organizational set up, both at the Centre and States, for planning, implementation, operation and maintenance, MIS, monitoring and evaluation, computerization, etc. and suggest necessary improvement to achieve the objectives and targets of the Eleventh Plan.
 5. To review the current status of operation and maintenance of urban water supply and sanitation schemes and suggest policies, strategy, ways and means for effective operation and maintenance of the assets created including transfer of responsibilities of ULBs.
 6. To make a critical review of the achievements, roles and involvement of the International and other External Support Agencies like WHO, UNICEF, UNDP, World Bank and bilateral donors and define their future roles keeping in view the national policies, objectives and priorities.
 7. To review the impact of water supply and sanitation activities on reduction in incidence of infant mortality, mortality and communicable diseases in urban areas and to suggest appropriate policies and programmes.
 8. To suggest suitable measures for conjunctive use of surface and ground water, integrated management of water resources, sustainability of water sources including conservation of water, rain water harvesting and recharging of aquifers, recycling of treated waste water etc.
 9. To review the impact of industrial, agricultural and municipal waste on drinking water sources and suggest remedial measures for abatement of such contamination.
 10. To suggest targets, preferably disaggregated, to be achieved for urban areas of different sizes in the Eleventh Five Year Plan.
 11. To make a realistic estimate of outlays required for achieving the desired goals and objectives and targets, set for the Eleventh Plan.

The Working Group will use the existing studies and reports and undertake new studies if these are inescapable.

- 3.1 The Chairman of the Working Group may co-opt any additional member(s), official or non-official and constitute smaller groups/sub-groups as may be considered necessary.

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- 3.2. The expenditure on TA/DA of the official members in connection with the meetings of the Group will be met by the respective Government Departments/Institutions to which they belong. TA/DA of non-official members will be borne by the Ministry of Urban Development under Government rules.
4. The report of the Working Group may be submitted to the Planning Commission within a period of four months.

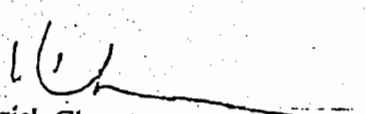

(Harish Chandra)
Director (HUD)
Tel: 23096722

To

Chairman and all Members of the Working Group.

Copy to:

1. P.S. to Deputy Chairman, Planning Commission.
2. P.S. to MOS.
3. P.S. to all Members of Planning Commission.
4. P.S. to Member-Secretary, Planning Commission.
5. Pr. Advisers/Advisers/Head of Divisions, Planning Commission.
6. Ministry of Finance (Plan Finance), Deptt. of Expenditure.
7. Administration (General), Planning Commission.
8. Accounts-I Branch, Planning Commission.
9. Information Officer, Planning Commission.
10. Director (Admn.)


(Harish Chandra)
Director (HUD)