



Pune Municipal Corporation

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Revising/ Updating the City Development Plan (CDP) of Pune City-2041

Under JNNURM



EXECUTIVE SUMMARY

Final Draft CDP

2012





SUMMARY: REVISING/ UPDATING THE CITY DEVELOPMENT PLAN (CDP) OF PUNE CITY – 2041 UNDER JNNURM

A City Development Plan (CDP) is both a perspective and a vision for the future development of a city. It presents the current stage of the city's development – where are we now? It sets out the directions of change – where do we want to go? It identifies the thrust areas – what do we need to address on a priority basis? It also suggests alternative routes, strategies, and interventions for bringing about the change – what interventions do we make in order to attain the vision? It provides a framework and vision within which projects need to be identified and implemented. It establishes a logical and consistent framework for evaluation of investment decisions.

The preparation of a City Development Plan can be understood as a consultative process where the municipality and parastatal agencies responsible for provision of services and overall development of the city will play a pivotal role.

The Jawaharlal Nehru National Urban Renewal Mission (JNNURM) gave an opportunity to the rapidly growing city of Pune, to improve its urban, economic and social infrastructure. City Development Plan (CDP) 2006-12 was prepared and approved for the city of Pune in 2006 as a prerequisite for availing financial assistance under JNNURM.

NEED FOR REVISING THE CITY DEVELOPMENT PLAN

Pune city has grasped numerous changes since the CDP's approval by the Ministry of Urban Development, GoI in 2006 with regard to new infrastructure projects and implementation of reforms which have been undertaken in the last 5-6 years. Under JNNURM, the city has taken initiatives such as development of Bus Rapid Transit System (BRTS), road widening and construction of subways, construction of Sewage Treatment Plants (STP), remodeling of storm-water drains, augmenting water supply and development of waste management facilities.

In the recent past, Pune has been a favored destination for industries working with most high technology and for varied educational openings, and has consequently witnessed a significant in-migration. Linking with this fast urban growth and increasing population from 4.8 Lakhs in 1951 to 3.1 million in 2011, there is an issue of grave concern of environmental degradation in which the growth of the city is linked with increasing urban activities thereby; a substantial need for improvements in urban infrastructure is envisaged.

The dynamic nature of the cities insists on the City Development Plan to be a progressive document requiring updation, keeping in view the developments in the field of Infrastructure and Governance as well as the growth in the population and the levels of development in the city. This has led to the preparation of the revised city development plan (CDP) of Pune city with a long term vision for next 29 years that is 2041.

Owing to the progress in the development processes that the city of Pune has made viz. effectuating almost all the mandatory and optional reforms and service level benchmarks, this revised CDP will be



prepared with a special consideration on the environment planning and sustainable development.

Therefore, it is pertinent to revise the City Development Plan to subjugate the pressures on environment and infrastructures consequently providing an update of the investment plan under the jurisdiction of the Urban Local Body that is Pune Municipal Corporation.

CITY ASSESSMENT & SECTORAL ANALYSIS

Regional setting and overview of Pune city

Pune is one of the most renowned places among tourists to Maharashtra. The educational institutions, presence of a number of industries and branches of virtually every array of economic activity have made Pune a prosperous town. In 1987, the urban area of Pune was 138.36 Sq.Km. with an addition of 23 villages in 2001; the area has increased to 243.84 Sq.Km. The Revised City Development Plan addresses the urban area of Pune as a whole.

Demographic Profile

The population of Pune city as per Census 2011 is more than 3 million which has grown by more than six times in the last 60 years. Migration has increased from 3.7 Lakhs in 2001 to 6.6 Lakhs in 2011. The population density has increased from 10405.28 person per Sq.km in 2001 to 12,770.25 person per Sq.km. Population density especially in the core areas are very high. A fall in 0-6 year's sex ratio in last decade which is a negative indicator for social development has been observed.

Pune's rapid socio-economic development has had a significant impact on the urbanization in the city; future growth is governed to a large extent by the development patterns in the city and Pune Metropolitan Region (PMR). Thus, based on the statistical methods of population projection, the projected population for Pune City for the years 2041 is 8.59 million.

Socio Economic Profile

The Workforce Participation Rate of Pune is approximately 34% and the non-workers contribute 66% indicating the dependency rate. The city has emerged as one of the major business centers in Maharashtra. It is one of the main investment hubs of the state and comes under the DMIC Project Influence area. It serves as a base for various large and small units operating in sectors like auto components, engineering, IT/ITeS, BPO, pharmaceuticals and food processing. It also serves as the regional wholesale market, market center and a distribution center for agricultural produce.

Land use and Urban Growth

The Pune Municipal Corporation is responsible for managing planned development in Pune city. It is also the sole agency mandated to develop and dispose of land in the city. Over the years, the growth of the city has been on a on a ring and radial pattern, with reliance on road based transport. The Development Plan of Pune 2001 envisaged the demands of housing hence the newly added 23 villages are mostly utilized for residential use giving an increase from 37% in 1987 to 50% in 2001 of the land in the residential use. The PMC, however, has been unable to meet forecasted demands for housing, commercial and industrial space, resulting in large scale unauthorized development, and areas with non-conforming land uses.



The high rate of in-migration and lack of formal access to appropriate housing has led to the genesis of unauthorized colonies in Pune. Unplanned settlements in the form of slums and squatters are spreading on the hillsides and along the water bodies, threatening the breathing lungs of the city. The slum population is steadily increasing and is now approximately 40% of the population.

Due to immense regional potential there lies a dire need for actual interventions of metropolitan regional development authority for Pune region.

Water Supply

PMC is responsible for procurement, treatment, transportation and distribution of water to the population residing within the Corporation's boundary. Existing water supply for a population of 3.115 million is 1123 MLD while the water requirements for a projected population of approximately 8.5 million in 2041 is 1957.8 MLD. At present PMC, is equipped to supply 1,318 MLD of treated water from 9 Water Treatment Plants (WTPs) and ground water abstraction from 399 dug wells & 4,820 bore wells. The per capita availability of water is 194 LPCD which is more than the suggested UDPFI standard guidelines of 135 LPCD. In spite of this, there is no equitable distribution of water supply which varies from 138 LPCD to 238 LPCD. Moreover, the continuity of water supply also ranges from 2 hours to 20 hours per day, adding to this about 6% of the city's population is not covered by piped water supply.

With respect to the service level benchmark, the description of overall service provision under water supply are discussed on the basis of each bench mark provided by the MoUD. In terms of coverage about 95 percent of the households have access to the piped water supply system through taps. The areas which are not covered are the newly developing fringe areas and the undeclared slums.

The per capita, average water supply in the city is as high as 194 LPCD against the standard of 135 LPCD and it ranges from 138 LPCD to 300 LPCD. The city also provides water to the nearby villages like Sus, Fursungi, Manjari, Sadesatara Nali etc. that are like to be included in PMC boundary. A total of 30% connections are metered out of which almost all the commercial connections are metered (Source: Water supply and Sewerage Department), whereas the transmission losses and NRW account for 30% of the total water supply against the standard of 20% and resulting in low water pressure. Old and defunct water supply network along with undulating terrain are responsible for transmission losses and NRW. Water supply is intermittent; typically, water is supplied twice a day. The duration varies from 2 to 20 hours, both in the morning and evening. Except for high level areas in the city and in fringe areas, supply pressures are reasonably high. Efficiency of collection of water charges is 90.93 percent exceeding the bench mark provided. Except metered connections, water tax is included in the property tax, based on Annual Rental Value (ARV). Recently, PMC has launched a tax payment scheme i.e. penalty for delay in payment. Cost recovery is 70 percent which is below the prescribed norm. For better annual operating revenue recovery, water supply rate needs to be equitable. In case of other performance indicators with respect to the service level bench marks PMC water supply services are up to the mark viz. quality of water which is 100% and complaint redressal is 97% as against the standard of 80%.

As per the secondary data analysis and primary survey consultations, it was observed that although the average per capita water supply (194 LPCD) in Pune city is more than the national standard of 135 LPCD (UDPFI guidelines and 150 LPCD of CPHEEO Guidelines) yet there are issues of inequitable water distribution, system losses due to old and defunct water network, low coverage of metering connection



and low coverage of water supply system in newly added areas.

Considering the existing scenario CDP -2041 suggested the sector vision statement “ **To ensure safe, potable, reliable, equitable, affordable water for all with sustainable water sources**”. For achieving the vision CDP-2041 recommend goals of Equitable distribution of water supply in all areas , 24X7 water supply , Increase the Ground water level , Minimizing the transmission and distribution losses , 100 percent coverage of metered connection and 100 percent of cost recovery of water supply on telescopic tariff.

Seeing the challenges related to water supply in the city, following strategies for different horizon years have been identified. Identification and assessment of water supply sources for fulfilling the future need till 2041. Decentralization of water supply system in terms of storage capacity, coverage of population, availability of water sources and formation of water supply zones as per suggested by Equitable water supply scheme for Pune City, replacement and augmentation of Parvati water treatment plant and Cantonment water works. For ground water recharge city wide rainwater harvesting is recommended. For reducing the expenditure and increasing the cost recovery water auditing, energy audit and telescopic tariff are suggested in CDP-2041. Public private partnership also recommended in the CDP.

Sewerage & Sanitation

PMC is also responsible for the management of the sewer system, collection, transportation, treatment and disposal of sewage. The length of sewers in the city is 1260.6 Kms. The sewage generation in Pune has been estimated at 575.2 MLD against the present installed treatment capacity of 527 MLD. Thus there is a gap of 48 MLD in treatment of wastewater. There are 9 sewage treatment plants (STP's) in the city. The future sewage generation for 2041 is estimated at 1,566.2 MLD.

The levels of services provided by the City's wastewater treatment and collection are good when compared to national and state SLB standards. The service level benchmark study states that, the coverage of sewer network is approximately 97% which is satisfactory as per the benchmark, but the collection efficiency of sewerage is 73.35% against the standard of 100%. Treatment capacity adequacy is 71% which indicates that 29% of wastewater is still untreated and disposed into various streams in the city, resulting in water pollution. Current practice of recycling and reuse is only around 6% below the standard of 20%. The efficiency in complaints redressal is almost 100%, which is above the SLB standard. Revenue collection efficiency of PMC is 68% which is also below the normative standard of 90%. The cost recovery in wastewater management is falling short of the SLB standards. The cost recovery is only 76.05%, whereas the expected level is 100%.

As per service level benchmarking and data analysis the main issues of sewerage are collection efficiency and adequacy in treatment capacity due to insufficient conveyance system which leads to polluting water in natural streams thereby deteriorating the quality of water.

Keeping in view the issues and key stakeholder interests the CDP suggest sector vision statement, “**To provide universal access to affordable sanitation and ensure ecologically sound management of waste water providing public health protection**”. For pursuing the vision statement, goals of 100 % collection efficiency , High quality treatment , Adequacy of wastewater treatment up to service level benchmark and 100 percent capacity of recycling and reuse for agricultural activated and secondary purposes have been recommended.



For achieving 100 percent collection efficiency strategies of provision of city wide sewerage network and connect all households to sewerage system have been proposed. To increase the adequacy in treatment capacity improvement of conveyance system and augmentation of existing treatment plants have been recommended. Apart from above strategies capacity building of PMC staff and encouragement of Pay and use toilets have been recommended in CDP. All the strategies are suggested on the bases of NRCP scheme which is in Pipe line.

Solid Waste Management

PMC is responsible for the collection, transportation and disposal of solid waste in the city. The total bulk of solid waste generated per day in Pune is estimated to be 1,374.3 MT. The waste collection efficiency of municipality is 100%. Currently, different types of waste in the city, including municipal waste, bio-medical waste, construction debris, industrial waste, hotel waste, etc. generated and disposed as per MSW rules 2000. But there is no scientific disposal for e-waste and C&D waste. Waste from different parts of the city is transported to landfill site located about 20 km away from Pune at Devachi Uruli. The estimated waste generation for the year 2041 is 5771 TPD. Pune Municipal Corporation had implemented two models namely *Garbage Free Katraj model & Electricity generation through wet waste generated in hotels in Kothrud Area*; acknowledging the success of these models, revised CDP proposes city level projects based on these models.

Service level benchmark study shows that the efficiency of collection of waste as well as extent of scientific disposal of waste is 100%. It is interesting to note that the extent of waste recovery and efficiency in redressal of customer complaints is more than the service level benchmark. Extent of segregation of waste is only 27.96% against the benchmark of 100%; while the household level coverage of SWM services is 52.7%.

Apart from coverage of door to door collection and extent of segregation of waste there is absence of any mechanism of scientific disposal of C&D processing waste and E-waste. Presently the C&D waste is being directly disposed in low lying areas along the river.

The above challenges and the consultation proposes the sector vision statement as, ***“To provide most cost effective and efficient solid waste collection and disposal service while providing maximum practical protection to environment with Zero waste city” has been recommended in CDP.*** For ensuring the vision statement goals of 100 percent door to door collection , waste minimization , segregation of waste at source, recycle and reuse of waste and respect for the people who are providing this service in society have been recommended.

Strategies and goals for Comprehensive Solid Waste Management system are formulated on the basis of service level bench mark study, existing and future demand situation along with stakeholder consultations to ensure that citizens of Pune will be provided with environment friendly and sustainable waste management system with complete and safe disposal facilities along with waste reduction and O&M recovery mechanisms in place. For Minimizing the waste generation, Strategies of less/ recyclable packing material and *‘Bring your own bag day’* to encourage the shoppers to bring their own bags have been recommended. For 100 percent door to door collection NGO participation and private sector participation have been proposed. For scientific disposal of e-waste and C&D waste treatment facilities have been recommended. New technologies including Autoclaving, Hydroclaving, and Microwaving for



the treatment of BMW waste have been suggested in the CDP. Strict monitoring of Vermi-composting has been recommended in CDP. Awareness programs to sensitize the citizens for paying respect to the SWM workers especially at the grass root level and health initiative for these workers have also been suggested in the CDP.

Storm Water Drainage

PMC is responsible for the construction and maintenance of drains in the city. Natural nallahs and their tributaries present in all the 23 basins forms the primary drainage channel for the city of Pune. There are a total of 228 nallahs with total length of 382,633 m under the drainage channel. Four rivers flow through the city with a total length of 53.92 km.

The drainage system network in the municipal area has limited coverage, with closed roadside drain network available for selected and major roads. The existing percentage of road drainage network is only 52 percent. Increasing paved areas and development is causing water to flow on the roads causing damage to road surface and putting additional load on the existing road side drains along main roads. Absence of integrated network is resulting in the rainwater being carried by roads pathways etc. towards the nearest natural drain causing flooding on the road. Rapid urbanization has significantly changed the nature of drainage areas in all watersheds.

There is a substantial increase in the paved areas. This has resulted in increased runoff volumes for almost the same rainfall events. The demand for land has increased, which has affected the natural drains. The widths have been reduced at many places due to encroachment, seriously affecting the carrying capacity of many a drain. The development along the nallas has not taken place in a scientific and planned manner. This has resulted in emergence of areas which are prone to flooding, even with moderate rainfall intensities.

The uncontrolled development of “urban poor localities”, have generally happened near nallas. The drainage channels have become vulnerable to deposition of wastes of all kinds, mainly waste water and solid waste. This has resulted in higher silt load, reduction in carrying capacity and difficulties in maintenance. In the earlier years, the network of roadside drains was present in limited areas. The coverage has increased in last few years especially after severe floods of 2005. However, this is still not adequate to cover all roads. The RCC pipes are being used for roadside drains, with storm inlet chambers at regular intervals. At present, there is no separate tax on storm water drainage component.

The sector Vision statement in the CDP is ***“To develop and maintain comprehensive water shed and Storm water infrastructure system to protect health and safety, to enhance the quality of life to preserve and improve the environment”***. For achieving the vision statement the goals are, to Protect and enhance the functions of natural drainage , Prevention of soil erosion along the natural drains , make city free from water logging , 100 percent coverage of drainage network and storm water to be treated and reused.

For ensuring the comprehensive water shed and storm water infrastructure CDP recommended strategies for protection and preservation of 23 natural Drainage basin, Beautification and plantation along the natural drains, De-silting of Drains, construction remodeling and rehabilitation of storm water drain and road side drains and Provision of penalty for encroachment and dumping of waste water in drains at community and individual level have been proposed.



Traffic & Transportation

The National Highway Authority of India (NHAI) maintains the National Highways, PWD and State Highways while, PMC are responsible for developing, operating and maintaining the city road infrastructure. As per the Road Department of PMC, the road network covers around 1,922 Km. Out of which 1,872 km road are municipal roads and 50 km roads are coming under national highway, state highway and PWD roads. Road network of Pune city is characterized as radial and rectilinear in pattern. The high concentration of radial roads towards the city core makes the city congested along all the major corridors.

Over the years, the total number of vehicles on Pune roads has increased with almost 10% annual growth in vehicular traffic. In Pune city around 2 lakh vehicles are added to the traffic every year. Two-wheelers are the major mode of transport in the city with 73% of motorized vehicles contributed by Motor Cycle, Scooter and Mopeds.

Pune Mahanagar Parivahan Mahamandal Ltd. (PMPML) is the service provider of the public transport system of Pune. PMPML has about 1,745 buses in operation, including around 327 buses hired from private operators. Presently, PMPML operates 334 intercity routes with average route length of 18 kms. The present PMPML fleet is plagued with overage buses resulting in inefficiency in operation and economic loss. The average age of Fleets is 7 years. As per PMPML records, 12.3 lakh passenger are daily travelling in PMPML buses

Pune is the Pioneer to introduce the first BRTS in India with a Pilot Project named Swargate-Katraj-Hadpsar, BRTS in 2006. BRTS route is comprised of 27 bus stops, 29 Junctions and 6 terminals. The pilot BRTS connects 6 terminals and major activity areas specially Hadpsar, Magarpatta, Swargate, Cantonment area, Bibvewadi, Balajinagar and Katraj with each other. Apart from Pilot Project approximately 101 km BRTS network was sanctioned under JnNURM. The BRTS system for Pune is a system with a mix of dedicated and non-dedicated BRT lanes depending upon the availability of right of Way.

In Pune city there are issues related to roads and transportation which include inadequate capacity of roads, heterogeneous traffic and high growth rate of vehicular traffic volumes on roads, Inadequacy of public transport leading to emergence of auto-rickshaws as a public transport mode, Increase in personalized vehicles, Haphazard vehicular movement due to poor sense of driving, insufficient parking facilities and inadequate enforcement compounded traffic problems, Encroachment along the major roads due to concentration of informal activities and absence of a safe and comprehensive system of pathways.

The Comprehensive Mobility plan (CMP) as its name advocates, is a document which gives all the measures that should be taken up to improve the traffic and transport condition in Pune city, hence it is recommended that any project which is taken up without being the part of CMP should first be analyzed with respect to the recommendations of the CMP and then implemented and if it is not included in CMP or is not in coherence with the CMP then necessary changes be made either in the Project or in the CMP to make both compatible with each other.

Sector specific Vision Statement of Pune city has been adopted on the basis of CMP and national urban transport policy. Vision statement of Pune city is ***“To provide a safe, efficient and cost effective***



multimodal transportation system that is accessible to all residents and visitors, protects environment, promotes economic development and is compatible with and supportive of the city's future land use plan".

As per existing situation and Comprehensive Mobility plan this revised CDP recommends the strategies for affordable public transport, improvement of bus based public transport in term of increase in number of buses, Introduction of new Modes of public transport such as Metro-rail, Light Rail Transport System (LRTS) and Monorail System, Feeder system for metro, Improvement and expansion of BRTS corridors, development of cycle track with parking facilities, Introduction of Congestion charges, Development of safe pedestrian facilities, Provision of Subways and skywalk, Provision of Flyovers and development of HCMTR and new DP road.

Urban Poor & Slums

Pune attracts thousands of immigrants due to multiple variants of economic activities and most of them falling in the category of lower strata forming the poor or low income group, who are forced to live in slums or slum like conditions due to poor affordability. The total number of slums in Pune are 564 with 353 declared or notified and 211 undeclared or not notified. The slum population in Pune city is huge; more than 1.2 million people can be classified as slum dwellers.

Major issues related to slums in Pune are as follows: Slums are undeclared or not notified, in which approximately 27 percent of the total slum population resides, data base related to access to basic facilities by the slum dwellers is not yet available, density in slums is 2399 persons per hectare which is excessively high, a number of slums are located on environmentally sensitive areas and disaster prone areas, the average tenement density is 290 per hectare, Slum dwellers do not have tenure security.

The sector specific Vision statement of Housing and slums is to have **"Slum free city with Inclusive and affordable Housing for all"** which is adopted on the bases of stakeholder consultation and considering the existing situation

City Development plan recommended two types of strategies preventive strategies and Curative strategies as suggested in RAY. In preventive strategies GIS mapping, Creation of land banks for fulfilling the future requirement of the affordable housing and provision of incentive and subsidies have been recommended in CDP. In curative strategies of Resettlement, Up-gradation of slums has been recommended in City Development Plan. Apart from curative and preventive strategies, capacity building awareness and training program recommended for social and economic development.

Urban Environment

Pune city, now home to more than 3.1 million populations and growing at a rapid pace, is increasingly at the forefront of the most pressing environmental challenges. The rate of environmental degradation has grown at a much higher rate. This includes loss of biodiversity, increase in air pollution, surface and ground water pollution; leading to high incidences of diseases. The transport and domestic sectors are the major contributors to the rise in ambient air pollution levels. The most pressing environmental concern is the continued degradation of the Mula and Mutha Rivers, due to the dumping of untreated effluents into its waters. Pune city is releasing around 4,661,064.20 t CO₂e emissions, mainly contributed by vehicles, power and residential sectors. This quantity if unabated could be a major threat to stabilizing



Climate Change. As per the draft report of TERI study on Carbon Inventory of Pune City, the maximum emission of CO₂ is from the residential (31.6%) due to consumption of electricity and petroleum, followed by HT electricity then the transport sector. These are the key areas which need to be reduced in the CO₂ emission.

Considering the above challenges the sector vision statement is **“Sustainable and livable city for present and future generations”** has been adopted. In continuation with Vision statement City development plan sets the goals to retain , preserve, restore and develop city’s natural resources such as rivers , hills , vegetation, air and water quality , develop open-spaces and garden areas and provide a variety of quality leisure opportunities to residents and visitors and resource conservation –maximizing efficiency of water and energy resources.

For reducing the GHG gasses and improving the quality of life in city demarcation and protection of hills, forest areas and recreational areas, urban forestry and plantation schemes, regular monitoring of compensatory tree plantation and development of bio-diversity parks as per DP strategies have been recommended in city development. Apart from this, this revised CDP also recommended the Multimodal transport system including Metro rail and BRTS for reducing the Co₂ emissions. For conserving the water bodies river conservation plan has been recommended as natural heritage.

Urban Heritage & Tourism

The illustrious past of the city has given the region a unique identity. Today Pune has provided for growth in IT sector, automobile manufacturing sector and a place for innovations in science and technology. Pune is considered one of the safer metropolitan cities and is a favorable destination for tourists, both for national and international. Pune City boasts a rich cultural and historical background. The city has a number of structures with traditional architectural character of the Maratha’s, which need to be preserved or conserved. Heritage of the city is comprised of dense city core with traditional housing or the “Wada” and the colonial part with palatial Indo- saracenic style bungalows; Institutional buildings, colonial bungalows and palaces constitute the urban heritage of the city.

As per existing scenario and stakeholder consultation it is observed that heritage resources are threatened by over-densification, uncontrolled and inappropriate construction due to the non-enforcement of guidelines for development in their vicinity. In case of Tourism there is lack of tourism infrastructure in terms of tourist buses for major spots, lack of amenities like eating joints and toilet facilities.

The sector specific vision statement is “Conservation of Pune’s rich heritage and culture, traditional arts & crafts and its natural resources and improve the tourism prospects in order to generate revenue and employment” has been formulated for Pune city. City development plan also fixed goals to restore and conserve the tangible and intangible heritage, Impart a sense of pride for Pune’s character and its significant contributions to the national heritage and history, Promotion of Eco-tourism , Promotion of Adventure Tourism, Identify theme based tourism potential at regional level.

City Development plan recommends conservation of buildings, artifact structures, areas and precincts of historic, aesthetic, architectural, cultural significance and natural features of environmental significance. In order to monitor conservation of the heritage structures city development plan recommends the area conservation plan with development control Rules & Regulations for heritage structures. City



Development Plan also recommends ecotourism and natural recreation on Mula- Mutha River Pune.

Disaster Management

Pune is served by two major perennial rivers having three dams. The city is in seismic zone III. 40% of the population lives in slums and the city still retain its old structures which are in dilapidated condition, in the 'old city' parts. The roads are congested, there is an increase in the solid waste generating threat of epidemics and terrorism has set foot on the soil of Pune. Affliction of 'Swine Flu' in 2008-09 has also placed Pune on the map of Biological hazards. Thus, the development has thrown up many challenges and threats have multiplied manifold. The Integrated Ward Level Disaster Management Plan prepared by PMC has developed and addressed these threats and the effects of disaster resilience. The sector specific vision statement as adopted in CDP is ***"To make Pune city a safe and secure city from natural and man-made disasters"***. In order to achieve this vision, the revised CDP fixed goal of Proactive and reactive integrated disaster management for all communities in the Pune City Municipality, so that the consequences of disasters can be eliminated or reduced through a safe and sustainable environment. As per existing situation and disaster management plan City Development Plan includes strategies for seismicity, flood risk, land sliding, biological hazard, chemical hazard, fire fighting and anti-terrorism.

Governance

PMC is divided into administrative wing and an elected wing with responsibilities being shared and headed by Municipal Commissioner mostly covering the infrastructural and developmental work in the city while the latter being responsible for the financial deliverance and the approvals for the various developmental works. Responsibilities of PMC under the BMC Act include the maintenance, operation and development of certain public utilities in the city classified as obligatory and discretionary services.

The administration is structured under 14 wards further divided into 76 'prabhags' classified into two groups administered and monitored by total 152 councilors or Nagar sewak or corporator. Governance is distributed in terms of policy making and financial decision making as a responsibility of the Standing Committee (formed of 16 members of the 152 corporators) and Municipal Commissioner as the Chief Executive of the authority subjected to supervision by the state government. Municipal Commissioner is supported by 3 Additional Commissioner followed by the Additional Commissioner, Deputy Commissioners and Zonal Officers in different zones. PMC as on 31/03/2012 had total employee strength of 17,628 against the sanctioned posts of 19,374 with total vacant positions of 1,746 graded in 4 designations from Grade-1 to Grade-4. This staff strength is assigned in various departments to perform the functions and duties of the Corporation.

Pune is a JNNURM city mandated to implement certain reforms to avail for the funds. There are other optional reforms that may be implemented by the corporation as per the JNNURM framework. It was observed by the previous CDP that implementation levels of mandatory reforms have been appreciable. PMC publishes its quarterly progress reports (QPR) on the achievement and planning for implementation of reforms on its website making it a transparent information system readily available to its citizens.

Subsequent to the discussion on institutional framework and reforms it is essential to analyze the municipal finances that are of vital importance for functioning of the city. Financial reporting enables policy makers and authorities to assess, monitor and regulate the efficiency of the Urban Local Body and identify financial stop gaps in the performance of the Governing Body. For financial reporting and



recording, PMC has successfully achieved complete transition from its single entry accounting system to accrual based double entry accounting system under the mandatory reforms. The actual accounts as provided by the Pune Municipal Corporation have been analyzed through the audited results available for past three years (2006-07 to 2008-09, Trial Balance Sheets prepared for 2009-10 and budgeted data for subsequent years) and unaudited and budgeted data for 2010-11 and 2011-12. Tax Rates as recommended by the Standing Committee for the year 2012-13 have been also discussed.

Income analysis shows that in the Revenue Income side Property Tax has revenue shows a CAGR of 22% while Octroi and Toll have grown at a CAGR of 15%. Tax revenue from water has grown at a CAGR of 20%. In the area of water supply, there is a scope of bringing more number of households under metered water coverage and strengthens this revenue. The Non-Tax Revenue consisting of Fees & User charges, Sale of Forms & Publications, Interest, Rental and other income has shown a growth rate of 25%. As reported in the financial statement the corporation has not suffered any deficit in the income for past five years which is appreciable. These income figures however need to be seen in correlation with the Expenditure for the analysis period. Octroi and Toll has consistently contributed a share of 55-65% to build the Tax Revenue corpus followed by Property Tax contributing 14-17% while water tax contributes to only 6-9% of the total tax revenue. The graph 10-2 shows the Tax-Revenue vs. Non Tax Revenues. The share of Tax-Revenues has been more than the Non-Tax revenue sources. The Capital income though not significant but has shown a very strong growth rate which reflects that PMC has aggressively developed its revenue generation capacity that needs to be sustained through strategic actions and reforms; this can also be compared with the gross asset block growth rate. Based on the trend of Income levels it can be said that PMC is has significantly worked in the area of fiscal decentralization. When we see the expenditure side analysis, the revenue expenditures have grown at a CAGR of 16% while capital expenditures have grown at a CAGR of 18%. Volume of Revenue Expenditure has been high mainly on account of Establishment Costs and Administrative Costs. As per the 2011-12 budgets, establishment expense has the maximum share of 59% followed by administrative expenditure with a share of 20%. Deficit is seen from year 2007-08 onwards owing mostly to appropriation account. Total income is higher than the total expenditure and not pushing the Corporation into a negative leverage situation. PMC needs to regulate the appropriations of the funds to avoid the deficit post consideration of depreciation and appropriation of funds. Gross Block has grown at a CAGR of 31% which appears really appreciable however with the higher borrowing capacity of PMC it can leverage its position to make investments in creating fixed assets/infrastructure for the city. Repairs and maintenance comprise less than 10% of the revenue expenditure and between 2-3% of net-block. Current ratio stands at more than 1 which is attractive to creditors thus PMC should maximize the utilization of Current Assets to achieve a ratio of 1.

There are few short falls observed in the basic working structure of the PMC as described by the BMC Act, 1949, that needs to be addressed. These essentially include proper description of roles and responsibilities of various departments within PMC, need of interdepartmental integration, Inter-governmental Issues, absence of a central data platform, need of performance monitoring and incentives, maximization of technological up gradation and capability. To counter these issues certain recommendations have been made which include Activity mapping, Creation of Central Data Bank, Up-gradation of technology and its use, Performance Evaluation, Capacity Building and Training program, Analysis and utilization of data collected By Corporation, Timely completion of Financial Reports and Preparation of Audited Results.



Capital Investment Plan

Subsequent to the analysis of the need of various sectors a Capital Investment Plan has been prepared to address and create projects for meeting the ever growing demand of the city. Based on the planning commission working group report for urban governance (2012-17), JNNURM-II shall soon be in place with a long term target till 2041. The CIP tries to integrate the recommendations of the previous CDP and the projects incorporated, the JNNURM (phase-II) mission and vision and the planning commission working group recommendations. Looking back the previous City Development Plan for PMC city was prepared in 2005-06 and covered various aspects related to water supply, sewerage and sanitation, solid waste management, traffic and transportation, land use, urban poor and housing, urban environment, education, and health. Total investment identified in the CDP 2005-06 was Rs. 6643 crores till the year 2012 of which an investment of 6072 was planned for 2011-12. The capital investment plan is aimed to be a long term plan that needs to cover the long term visions with broad objectives of Identifying the essential projects across sectors served by the ULB, Phasing and scheduling of investments in a sustainable manner to avoid fiscal deficit scenarios, Prioritization of needs and capital investment phasing as in input for effective fund management (FOP). The Capital Investment Plan has been phased in 3 time frames with an equal period of 10 years plan. The total estimated investment for the period envisaged under the CDP is estimated at Rs 88443.9 including the Special Projects, housing and slum for one of the top 10 GDP contributing cities in India. More than 90% of the total investment is planned in Phase-1 spanning from 2013-14 to 2020-21 while remaining has been phased beyond 2021. Projects have been categorized under different sectors based on consultation and through deliberations with PMC departmental heads and interactions with other officials. The special projects category includes all the projects that are highly capital intensive in nature and require interventions beyond the conventional operational mechanisms of the administration. Inflation index over base price is estimated at 9.01% based on the last 5 years average inflation index and normalized inflation after 5th year based on 10 years inflation index average at 5.6% till 2041.

A total investment on Water Supply projects is estimated at Rs. 3693 Crores at constant prices with majority investment in Phase-1 of Rs.3689 Crores. Investments in Sewerage projects have been estimated at Rs. 673 Crores with major investments in pipe laying and development of STP. Investment on drainage projects is estimated to a tune of Rs. 1522 Crores. It is estimated that the total investment requirement for Solid Waste Management projects is Rs. 698 Crores. The CIP estimates a total investment need of Rs. 13259 Crores with 41 % of the base value investment in Phase-1 for Urban Traffic and Transportation sector. Environment conservation projects have been envisaged in Phase-1 of the CIP with a total estimated investment of Rs. 274 Crores. Heritage and tourism projects in subsequent investment phasing have been estimated for total investment of 2350.67 Crores. Total investment for Disaster Management projects has been estimated at Rs. 695 Crores. An estimated investment of Rs. 582 Crores is required during Phase-1 to enable the corporation in upgrading governance and financial management mechanisms. Total estimated capital investment for special projects is 18,014 Crores which includes Metro Rail Project, HCMTR project and Water System Projects. The Pune Municipal Corporation has proposed to include 28 villages from its surrounding areas to be added to its boundaries. Due to absence of any conclusive data regarding these villages an immediate investment requirement as a part of CIP has been estimated at Rs. 1146 crores covering water supply, drainage, sewerage and roads.



To sustain this CIP a FoP (Financial Operating Plan) is essential which is a multi-year forecast similar to the CIP period and provides the year over year picture of finances of the ULBs to plan for phased or termed strategy. The FOP deals with the pattern of financing the new investment that considers alternative sources of financing the vision and the accompanying strategy and programs. The FOP accounts for multiple unprecedented and deep impacting changes like Abolition of Octroi and its comparison with Local Body Tax (As per the LBT Act 2010 – Maharashtra State Government), completion of JNNURM etc. The revenue and expenditure need to be assessed based on assumption of income and expenditure from the traditional heads of accounts under municipal finance and new heads of revenue brought in by the CIP. The FOP tries to capture these areas and provide for a long term financing strategy and essentially provides the basic cash flow estimate over the CDP period.