9. Metro Manila, Philippines
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9.1 INTRODUCTION

Metro Manila, the National Capital Region of the Philippines, is the seat of government and the most populous region of the Philippines. It covers an area of more than 636 square kilometres and is composed of the City of Manila and 16 other local government units (15 cities and one municipality). As the city has grown, the local government structure has led to a polycentric system of highly competitive cities in the metropolitan region. The impact of rapid urbanization on the city has been dramatic.

Metro Manila is the centre of culture, tourism, the economy, education and the government of the Philippines. Its most populous and largest city in terms of land area is Quezon City, with the centre of business and financial activities in Makati (Photo 9.1). Other commercial areas within the region include Ortigas Centre; Bonifacio Global City; Araneta Centre, Eastwood City and Triangle Park in Quezon City; the Bay City reclamation area; and Alabang in Muntinlupa.

Among the 12 defined metropolitan areas in the Philippines, Metro Manila is the most populous. It is also the 11th most populous metropolitan area in the world. The 2010 census data from the Philippine National Statistics Office show Metro Manila having a population almost 11.85 million, which is equivalent to 13 percent of the population of the Philippines.

Metro Manila ranks as the most densely populated of the metropolitan areas in the Philippines. Of the ten most populous cities in the economy, five are in Metro Manila. Although other cities, such as Cebu and Davao, are now growing relatively faster and reducing the primacy of Metro Manila somewhat, its dominance continues.
Much of Metro Manila is low-lying and in an active tectonic zone. More than 4 million people live in slum settlements. The area has significant traffic, waste management, governance and social problems. Despite this, it has demonstrated remarkable resilience in overcoming physical and economic disasters and challenges. This chapter explores some of the challenges, and the ways the city has gone about supporting sustainable development under difficult circumstances.

### 9.2 ECONOMIC ENVIRONMENT

The pre-eminence of Metro Manila in the economy is illustrated in its GDP, which equates to 37 percent of the Philippine GDP. This dominance has continued with the recent growth of business process outsourcing (BPO), taking advantage of the relatively good ICT infrastructure (compared to neighbouring Cambodia; Indonesia; and Thailand), the Filipino capacity in English, and the Philippines intermediary time zone between Europe and the North America. In 2014, Ericsson’s Networked Society City Index ranked Manila as the 8th most improved in terms of ICT maturity. The report also indicated that Manila has a higher performance in ICT usage compared to its ICT infrastructure. This means that while Manila still needs to improve its ICT infrastructure, the ICT service and usage is high. This gives the city opportunities to improve and innovate in this area, such as by using new mobile technologies for connectivity.
The economic reach of Manila goes far beyond the bounds of the formal boundaries of the National Capital Region. The effective economic region of Manila, the Mega Manila Urban Region, with a population of 26.4 million people, encompasses the surrounding provinces to the northeast and south. Figure 9.2 illustrates the Mega Manila Urban Region and its principal components.

**Figure 9.2 Mega Manila Urban Region**


### 9.2.1 Key Economic Sectors

Since 2000, Metro Manila’s economy has grown by almost 10 percent annually compared to around 5 percent for the whole Philippine economy. Daytime population in Metro Manila increased from 13 million in 2000 to 16 million in 2010, as more people residing in adjacent provinces sought work in the metropolis. The key sectors of the economy are shown in the Table 9.1.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Regional GDP (million USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>216</td>
</tr>
<tr>
<td>Industry</td>
<td>19,256</td>
</tr>
<tr>
<td>Commerce and services</td>
<td>89,360</td>
</tr>
</tbody>
</table>

Metro Manila’s economy is dominated by the services sector which contributes over 80 percent to the region’s GDP. Nevertheless, its manufacturing sector is very significant, constituting over 20 percent of the Philippines’ industrial output, second only to the Calabazon region, itself within Mega Manila.

9.2.2 Trade

Trade statistics for Metro Manila are difficult to disaggregate from statistics for the Philippines as a whole; but much of the economy’s imports and exports flow through Manila’s ports and airports. Electronic products account for a 40 percent share of total exports for the first semester of 2014 at USD 11.924 billion. Much of this is produced in the industrial estates of the Mega Manila Urban Region – particularly in the Calabazon and southern corridors. The ‘other manufacturers’ category follows with a share of 9.6 percent and receipts of USD 2.849 billion. Production in the manufacturing sector is concentrated in the Mega Manila Urban Region, so is the fourth ranked, machinery and transport equipment, with a share of 5.7 percent and export receipts of USD 1.692 billion. Of the leading exports, only the third-ranked, woodcrafts and furniture, and fifth-ranked, other mineral products, are not heavily concentrated in the area.433

With respect to imports, a similar picture emerges. At the top are electronic products with 22.3 percent of the total import bill at USD 7.010 billion. These imports are primarily destined for the consumers and factories of the Mega Manila Urban Region, as are the second-ranked, mineral fuels, lubricants and related materials with 21.7 percent share (USD 6.810 billion), the third-ranked, transport equipment, comprising 10.2 percent (USD 3.205 billion) and the fourth-ranked, industrial machinery and equipment, with 4.8 percent share (USD 1.497 billion). Figure 9.3 illustrates the primary sources and destinations for imports and exports for the Philippines.
The top 10 trading partners posted a total trade value of USD 46.953 billion or 76.6 percent of the cumulative external trade for the first semester of 2014. Japan was the economy’s top trading partner, accounting for 15 percent of total external trade. The total export receipt was USD 6.676 billion while imports were valued at USD 2.530 billion – a trade surplus of USD 4.145 billion. Major exports were woodcraft and furniture (25.2% of total exports to Japan) and electronic products (20.3%). Major imports were electronic products (32.8% of total imports) and transport equipment (16.3%).
The People’s Republic of China ranked second, accounting for 14.3 percent of the total trade in the first semester of 2014. The total export receipt was USD 4.064 billion while the import bill was USD 4.714 billion – a trade deficit of USD 649.80 million. Major exports were electronic products (43.7% of total exports to China) followed by other mineral products (22.1%). Major imports were electronic products (19.8% of total imports from China), mineral fuels, lubricants and related materials (13.3%) and iron and steel (8.4%).

The USA was the economy’s third largest trading partner in the first semester of 2014, accounting for 11.5 percent of total trade. The total export receipt was USD 4.184 billion while imports were worth USD 2.882 billion – a trade surplus of USD 1.301 billion. Major exports included electronic products (34.5% of total exports to the USA) and apparel and clothing accessories (13.7%). Major imports were electronic products (41.5% of total imports from the USA) and feed for animals (13.6%).

9.2.3 Investment Environment

The strengths of the Mega Manila Urban Region are considerable, despite its position quite removed from mainland Asia and the major logistics hubs there. The Philippines has provided a stable economic base, useful investment incentives through the Board of Investment, and, with the exception of electricity, reasonable costs for infrastructure which, apart from transport, is reliable in the core economic centres described above.

The Philippines’ high level of human capital is also an advantage. Its tertiary institutions turn out a large number of skilled, English-speaking professionals, able to adapt to work in many societies. Factory and industrial estate construction are the domains of the private sector, with the Philippine Economic Zone Authority providing approvals to a broad range of estate types, tailored for different types of investor. This policy is designed to allow flexibility to cater for a range of industries.

Table 9.2 Economic Competitiveness of New York, Singapore and Manila, 2012

<table>
<thead>
<tr>
<th>Category weight</th>
<th>Economic strength</th>
<th>Physical capital</th>
<th>Financial maturity</th>
<th>Institutional effectiveness</th>
<th>Social and cultural character</th>
<th>Human capital</th>
<th>Environmental and natural hazards</th>
<th>Global appeal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>30.0%</td>
<td>10.0%</td>
<td>10.0%</td>
<td>15.0%</td>
<td>5.0%</td>
<td>15.0%</td>
<td>5.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td>New York</td>
<td>71.4</td>
<td>54.0</td>
<td>92.0</td>
<td>100.0</td>
<td>85.8</td>
<td>95.0</td>
<td>76.5</td>
<td>66.7</td>
</tr>
<tr>
<td>Singapore</td>
<td>70.0</td>
<td>46.0</td>
<td>100.0</td>
<td>100.0</td>
<td>87.8</td>
<td>77.5</td>
<td>69.8</td>
<td>87.5</td>
</tr>
<tr>
<td>Manila</td>
<td>43.2</td>
<td>34.0</td>
<td>61.6</td>
<td>50.0</td>
<td>45.6</td>
<td>65.8</td>
<td>56.6</td>
<td>54.2</td>
</tr>
<tr>
<td>Median Global</td>
<td>46.7</td>
<td>35.8</td>
<td>71.4</td>
<td>33.3</td>
<td>54.4</td>
<td>57.1</td>
<td>61.8</td>
<td>66.7</td>
</tr>
</tbody>
</table>

The strengths of the Mega Manila Urban Region can be seen from Metro Manila’s ranking in the Economist Intelligence Unit’s Hot Spots index of 120 major cities (Table 9.2).\textsuperscript{436} Manila received an overall ranking of 85th globally, and 26th in Asia. Metro Manila ranked 33rd and 66th respectively in the ‘economic strength’ and ‘human capital’ categories. Within the Philippines, the National City Competitiveness Index ranks Metro Manila highest in most categories.\textsuperscript{437} Metro Manila is diversifying, with heavy or export industries migrating towards the Greenfield estates in the logistics nodes of Batangas and the Clark-Subic area, and higher value-added services concentrating in the Metro Manila core.

Significant challenges remain in the areas of the reliability and cost of infrastructure, with congestion and high electricity costs being the two most significant factors. Declining levels of English in the overburdened Philippine state education system are also a problem. In some areas, such as in the BPO sector, skill shortages are emerging in the face of the phenomenal success of the sector (having surpassed India in the number of BPO ‘seats’), leading to a rising cost of labour in those sectors.

Another strength of the Mega Manila Urban Region is the moderate transaction costs of running a business. The fees and taxes levied are not onerous, work permits are available for expatriate staff, labour legislation, in general, is not difficult, and a broad spectrum of office and factory accommodation is available.

Significant challenges remain in the cost of doing business. Corruption is a major issue (see Figure 9.4). Improvements are required to approval processes, both in terms of transparency and processing times.
9.2.4 Innovation and Business Support

The Mega Manila Urban Region has significant strength in its capacity to support the development of local enterprise clusters and their supply chains, including financial assistance. The Philippine Competitiveness Council has been established to boost innovation and business support. Metro Manila is focusing on urban development as the effectiveness of local governments is considered an essential element of the Philippines’ competitiveness. The Philippine Competitiveness Council is actively seeking to address perceived infrastructure and governance shortfalls, and position Philippine urban areas as supporters of sustainable development, by providing an environment for higher value-adding activities to flourish. The Department of Trade and Industry has an extensive SME support system, partly funded by development assistance agencies.

While such measures support existing industries, and foster higher quality production by those industries, most of them do not, of themselves, foster innovation. Support for innovation is a challenge that requires a commitment to world-class R&D and product development. Current government support for R&D, at 0.11 percent of GDP, is low. Innovation support is weak, as are some aspects of enforcement of intellectual property.

Although largely domestic-focused, the financial sector also is a strength of the Mega Manila Urban Region. Despite a relatively shallow capital market, the Philippine financial sector is technically able to provide most forms of financial instruments and can link effectively to international capital markets. A significant part of the growth of the BPO industry is in providing ‘back office’ support to other economies, and such skills will form the basis for further development in the sector.
Financing the required strategic infrastructure is a challenge for the Mega Manila Urban Region, however, as local government collection of property tax is not effective. Even where the tax is collected from levied properties, the valuations are often very low; and this restricts financing options.

The results of existing policies are shown in the ranking of Manila in the ‘financial maturity’ category of the Economist Intelligence Unit’s Hot Spots index. It was ranked 32nd of 120 world cities.

9.2.5 Industry Clusters

The Philippine Development Plan 2011–2016 states that the Philippine economic performance in terms of investment, exports and competitiveness has been unsatisfactory compared to its neighbouring economies. The manufacturing sector’s share in the economy’s GDP has reduced, and the gross domestic investment rate is declining. Strategies toward increasing the competitiveness of its industries include improvements in the business environment, raising productivity and efficiency, and improving the quality of goods and services. The Philippine Development Plan highlighted key priority areas to help accelerate economic performance and generate more jobs and opportunities for Filipinos. These include increasing productivity and efficiency through supporting micro, small, and medium enterprises; increasing market access; expanding industry cluster development and promoting competitiveness.

To increase productivity and efficiency, priority will be given to development areas with the highest potential for growth and job creation, such as tourism, BPO, housing, electronics and infrastructure. One outstanding success for the Philippines has been the growth of the BPO market. Metro Manila is positioned at the centre of the BPO and IT industries, housing the most number of BPO and IT companies in the economy. Initially introduced as call centres or ‘voice’ services industry, the BPO industry has evolved to non-voice BPO functions such as finance, human resources, transcription services and administrative services. In 2007 and 2008 growth in the back office and knowledge process outsourcing industries generated revenues from USD 400 million to USD 830 million. In 2010, BPO industry revenues reached USD 9 billion, employing 530,000 full-time employees (Figure 9.5). The Philippines has been recognized by the National Outsourcing Association of the UK as the ‘Offshoring Destination of the Year’ for the years 2007, 2008 and 2010.
While the BPO industry has grown substantially, making the Philippines the number one global BPO destination in terms of pure voice-based BPO, IT services growth has not been as strong. As a result, India remains the leader in the global BPO industry due to its strength and capacity in IT, specifically software development. For the Philippines to compete head to head in this sector, it needs to enhance its capacity in the IT sector.

### Table 9.3 Operating Economic Zones in the Philippines, 2015

<table>
<thead>
<tr>
<th>Operating Economic Zones</th>
<th>Number Operating</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Philippines</td>
<td>Metro Manila</td>
</tr>
<tr>
<td><strong>Manufacturing Economic Zone</strong></td>
<td>57</td>
<td>6</td>
</tr>
<tr>
<td><strong>IT Parks and Centres</strong></td>
<td>209</td>
<td>127</td>
</tr>
<tr>
<td><strong>Medical Tourism Zone</strong></td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>


Data from the Philippine Economic Zone Authority show a growth in the number of IT parks and centres in the economy, from 16 in 2004, to 209 in January 2015. One hundred twenty-seven or 61 percent of these IT parks and centres are operating in Metro Manila. Other industry sectors in Metro Manila are shown in Table 9.3. IT parks and centres occupy the highest percentage, and overall Metro Manila has the highest number of economic zones compared to other regions.
9.3 STRATEGIC INFRASTRUCTURE

The Philippine Development Plan 2011–2016 states that the economy’s current gap in transportation infrastructure impedes development. The quality and quantity of infrastructure, including social services, have slowed efforts in poverty reduction and economic growth.

In the last decade, Metro Manila experienced high and sustained economic growth, but infrastructure deficits have led to worsening road congestion. The World Bank estimates the costs to the economy around 8 percent of GDP annually. To address the worsening congestion, the central government and various city governments have implemented ad hoc measures to limit the number of vehicles on the road. However, the core issues underlying the problem have not been addressed. The solution lies in creation of new and better road networks and mass transit systems.

In the transport sector, development of infrastructure was geared toward providing growth opportunities in the region and areas adjacent to Metro Manila, as outlined in the Medium Term Philippine Development Plan 2004–2010. The North Luzon Expressway Rehabilitation and Expansion Project, which was undertaken as a public–private partnership (PPP) and expanded to include the Subic–Clark–Tarlac Expressway, reduced travel time from Subic and Tarlac to Manila. This sped up the transport of agricultural products from the north, and manufactured and export/import goods from Subic to Metro Manila. The ongoing construction of the Tarlac–Pangasinan–La Union Toll Expressway, which connects to the Subic–Clark–Tarlac Expressway, will further relieve traffic congestion and reduce travel time. South of Metro Manila, the Batangas Port Development Project and the Southern Tagalog Arterial Road Expressway, will contribute to the economic development of Southern Luzon.

While many of the transportation projects are geared toward encouraging the growth and development of regions outside Metro Manila, the megacity’s transportation infrastructure needs further maintenance and support. Opening the growth corridors in the north and south of Metro Manila would also mean congestion within the metropolis, which is the centre of trade and commerce. The Philippines does not have an integrated transport plan, nor is there coordination between the central and local government transportation plans. Metro Manila’s existing rail system needs further upgrades to enable the mass transit system to transport commuters efficiently. Expansion of mass transit systems such as bus rapid transit systems need to be considered in the development of a viable, well-coordinated transportation network. Current on-ground public-use vehicles, such as buses, jeepneys, private minibuses, taxis, tricycles and pedicabs, are privately owned (either by companies or individuals) and are not government regulated.

Flood control and drainage is one of the main problems in Metro Manila. Existing flood control infrastructure is not sufficient, especially for an extremely dense megacity. Unexpected increases in storm water discharge cannot be handled by the existing, poorly maintained, and outdated flood control infrastructure, and result in massive flooding, especially in the low-lying areas in the metropolis. The Metropolitan Manila Development Authority is tasked with operating and maintaining Metro Manila’s flood control infrastructure. Funding is also required by each local government unit in Metro Manila to construct flood control programmes and infrastructure, and coordinate with...
government agencies, the Metropolitan Manila Development Authority and other adjacent local government units. Lack of funding has constrained the responsible organisations’ ability to provide effective outcomes.

While the Metropolitan Manila Development Authority manages flood control in Metro Manila; sanitation, sewerage, and seepage is the responsibility of the Metropolitan Waterworks and Sewerage System. Lack of investment in sewage collection, treatment and disposal has adversely affected sanitation facilities in poor urban areas, and open defecation is still practised. The sector’s high capital requirements and low investment returns discourage private sector engagement in such ventures.

As discussed briefly above, many aspects of the major logistics infrastructure and urban infrastructure remain a challenge, particularly freight and public transport, wastewater and solid waste services. Education and health services also are struggling to keep pace with population growth and the expectations of citizens.

A core strength of the Metro Manila Urban Region, however, is the collaborative approach to developing infrastructure, that has been adopted in the recent past. The Philippines is implementing an effective PPP programme for infrastructure provision, much of which is focused on Metro Manila. PPP projects in Metro Manila are not limited to transportation but include social infrastructure, an example being the National Kidney Transplant Institute (NKTI) Hemodialysis Centre. The NKTI Hemodialysis Centre was established to provide an affordable and quality outpatient healthcare service to address the increasing incidence of kidney ailments among the young, and other work-related degenerative disorders. The project involves a lease contract agreement with a private service provider, Freseneus Medical Care Philippines Inc. Under the agreement, the medical supplies, equipment and facilities necessary and related to hemodialysis are provided by Freseneus Medical Care Deutschland GmbH; and the technical support system, including NephroCare, technology transfer and the maintenance programme are provided by Freseneus Medical Care Asia-Pacific Ltd.

Another PPP is the Civil Registry System–Information Technology Project (CRS-ITP), a build-transfer-operate (BTO) joint undertaking between the National Statistics Office and Unisys Public Sector Services Corporation. The multi-phase project involves the automation of document copy issuance, authentication, and certification of civil registry documents; the conversion of over 120 million civil registry documents into digital format; the establishment of CRS outlets nationwide; the building of a wide area network infrastructure for the communication requirements of the CRS outlets; the development of application and support systems that will run the CRS, and the redesign of business processes to support the CRS.

This project aims to enhance public service delivery through expeditious processing of requests, shorter lines at the application and payment counters, and improved facilities for the convenience of the public. The CRS-ITP is also aimed at improving the integrity of processes, including minimizing cases of falsification and fabrication of civil registry documents. Moreover, the CRS-ITP will be able to address vital statistics production backlog of the National Statistics Office because of the enhancement of computing resources and capabilities.
9.3.1 Future Infrastructure Needs

The Asian Development Bank’s (ADB) *Asian Development Outlook 2007* identified inadequate infrastructure and a resulting poor logistics network as critical constraints to investment and growth. A strong and well-maintained infrastructure stimulates the business environment, improves productivity and enables economic growth.

Infrastructure investment in Metro Manila must be focused on increasing productivity through improvements in logistical networks. This includes transportation, communications and power. Inefficient transport networks and unreliable power supply and communications constrain overall growth, and must be addressed, especially if Metro Manila is to compete globally and side by side with neighbouring Southeast Asian economies, such as Singapore; Hong Kong, China; and Malaysia.

Improvements in the mass transit system and connectivity must be prioritized in Metro Manila. The increasing number of vehicles and poor road networks have increased travel time within the megacity. The need to improve mass rail transit is necessary to ease the congestion. Further, there is need to develop a Metro Manila transportation plan that connects the mass rail transit to other mass transit systems. An allocated lane for a bus rapid transit system is an effective way to shuttle more commuters from one point in the city to another. There is a need to phase out current public-use buses and jeeps that traverse the metropolis and occupy three to four lanes of the roadway. Further, the government must rethink its position on public-use vehicles, regulation of which is inadequate.

Apart from road improvements, flood control infrastructure must be prioritized, as flooding in Metro Manila immobilizes the city. A coordinated flood control system must be developed that takes account of current flood control infrastructures of the local government units, their infrastructure needs, and the greater whole of the megacity. Stand-alone projects, as currently operate, fail to recognise that flooding transcends city boundaries.

9.3.2 Operation and Maintenance of Infrastructure

A lack of coordination between local governments, asset management systems, and local government budgets which are constrained by insufficient and ineffective revenue mobilization, have all militated against effective operation and maintenance (O&M). Old assets are often rebuilt once they become almost unserviceable from lack of maintenance; this is environmentally and financially inefficient. Manila’s cities also need to increase their resilience in the face of clear and present threats from both climate-related (e.g. typhoons) and other natural hazards (e.g. earthquakes given that a major fault runs through the centre of the city).

Manila’s BPO industry depends, except for short-term and localized failures of electricity, on resilient infrastructure to deliver its skilled workers to BPO centres, and link them to the outside world. Its manufacturing centres are increasingly vulnerable as they move up the value chain and their integration into global supply networks increases. There is, therefore, an urgent need to future-proof against disruption to infrastructure supply and network systems, particularly in respect of the vulnerability of the city to typhoons.
Utilities need to undertake comprehensive asset management planning to reduce the possibility of future failure and ensure that services are re-established as soon as possible if failure does occur.

9.3.3 Infrastructure Partnerships

PPP programmes have been adopted in the Philippines as an important strategy to accelerate economic investment and infrastructure. Section 20, Article II of the 1987 Philippine Constitution, states: ‘The State recognizes the indispensable role of the private sector, encourages private enterprise, and provides incentives to needed investments’, thereby supporting private investment and partnerships that will expedite progress in the economy. Two other laws further support this initiative: The Government Procurement Reform Act (RA 9184) for the procurement of goods, supplies and services; and the Philippine Build Operate Transfer (BOT) Law (RA 6957). RA 6957 has subsequently been amended to RA 7718 to broaden the coverage of the BOT programme. The PPP Centre was established in 2013 to spearhead the PPP programmes and activities. In 2014, the PPP Centre announced that at least five projects under the agency’s programme would be completed by the end of the Aquino administration.

Data from the Department of Budget Management show a total of 98 PPP projects in the Philippines. Thirty-two of these projects have been completed. An example is a concession agreement with the Manila Water Company and Maynilad Water Services, Inc. as part of the Metropolitan Waterworks and Sewerage System Privatization Project (see Box 9.1). Sixty-six of the projects are ongoing and others are still to be turned over to the Department of Budget Management. Most of these projects are in, or focus on, Metro Manila. This both reinforces the city’s role as the focal point of the Central Luzon corridor but also helps bring markets of the capital to peripheral regions. The most prominent PPP infrastructure projects in Metro Manila are the Metropolitan Waterworks and Sewerage System Privatization Project and the North Luzon Expressway Rehabilitation and Expansion Project. Recently, it was announced that PPP projects in Metro Manila worth PHP 800 billion (USD 17.5 billion) will be rolled out in 2015. Most of these projects will be for the transportation sector. Projects include the Daang Hari–SLEX Link Road Project; Ninoy Aquino International Airport Expressway (Phase 2); modernization of the Philippine Orthopaedic Centre; an Automatic Fare Collection System (AFCS); the Light
Rail Transit Line 1 Cavite Extension and O&M; and the Integrated Transport System—Southwest Terminal project.

**Box 9.1 Public–Private Partnership (PPP): Metropolitan Waterworks and Sewerage System, Manila**

In 1997, the Metropolitan Waterworks and Sewerage System was first privatized through a public bidding with the area of operation divided into two concession zones (East Zone and West Zone). The division was to establish benchmarking, even the balance of power between the concessionaires and the regulator, and ensure competition in the bidding process.

The aim of the PPP is to: (i) increase capital investment and operational efficiencies that will expand service coverage; (ii) relieve the government of the financial burden needed to improve the facilities; (iii) ensure 24-hour water supply; (iv) improve sewerage services; and (v) reduce non-revenue water to an acceptable level.

The East Zone was won by Manila Water Company, Inc. while the West Zone was awarded to Maynilad Water Services, Inc. The scope of the concession agreement is to operate, develop, manage, maintain and upgrade water and sewerage services for 25 years commencing on 1 August 1997. The agreement specifies service obligation targets and performance standards.

**Service Levels**

The concessionaires are successfully providing water to their respective zones. Manila Water has expanded its pipeline network to 4,156km serving 6.2 million people; and Maynilad has decreased its non-revenue water to 32.7 percent and provides 24/7 uninterrupted water service to 1.2 million households.

There is criticism that the service provided is inequitably distributed and that the water tariff is beyond the ability of the poor to pay. However, in terms of performance, the two concessionaires are achieving their targets of 100 percent water service for their concession zones. Both are also working toward the rehabilitation and construction of sewerage lines as part of the concession agreement.

**Profitability**

While both concessionaires have continued to serve the residents in the east and west zones of the megacity, Manila Water is more successful and stable. The International Finance Corporation reported that Manila Water made profits two years after the concession award and has since expanded its network and clients.

Maynilad, on the other hand, has followed a slow and painful path in recovering their investments. In 2005, a Debt and Capital Restructuring Agreement was implemented aimed at rehabilitation of Maynilad. The plan provided the Metropolitan Waterworks and Sewerage System with the option to subscribe to 84 percent of the equity in Maynilad. In 2007, the Metropolitan Waterworks and Sewerage System conducted a bidding process for the equity, turning over the operations and administration of Maynilad from its earlier consortium to an all-Filipino partnership led by DMCI Holdings, Inc. and Metro Pacific Investments Corporation. The new Maynilad administration acquired USD 240 million of foreign debt and 70 percent non-revenue water. Almost two years after the new Maynilad administration took over, the concessionaire could pay its debts, develop strategies to reduce non-revenue water, and lay out a PHP 33 billion (USD 715 million) capital expenditure programme for 2007–2015.
9.4 SOCIAL ENVIRONMENT

The heavy reliance on the private market to provide social goods and services, in particular, housing, has led to social inequalities. Private developers select prime locations with sufficient access to services for development for high-income residents while less suitable areas are left for low-income residents. The net effect of this social polarization is the lack of physical integration of the city. This is observable in the well-designed road networks of high-income subdivisions that are de-linked from the main city or municipal road networks.

This trend carries through to infrastructure provision, for example, water, sewerage and drainage systems for high-income neighbourhoods are not integrated with a city network. A case in point is the storm water storage constructed under the new town development Bonifacio Global City. The water storage can accommodate 22 million litres of water, which take in the flood waters in the area. However, the adjacent City of Taguig does not have complementary systems, and poorer neighbourhoods in the city suffered severe flooding during Typhoon Ketsana.

Social services are also of better quality in high-income residential areas. The influence of the residents in local government can be seen in the provision of social and infrastructure services – streets, road networks, street lights, garbage collection, and security. Land-use planning and infrastructure development in Metro Manila are thus widely regarded as catering more to high-income residents. Such underinvestment in citywide infrastructure leads to high social and economic costs, much of which is borne by lower income groups.

9.4.1 Labour Market and Reforms

Sustained high economic growth in recent years has begun to translate into stronger job creation. The latest Labour Force Survey in October 2014 reported that net job creation reached over 1 million. Furthermore, unemployment has fallen to its lowest rate in 10 years: to 6 percent, from 6.4 percent the previous year. The bulk of job creation was in the services sector, with 675,000 jobs, although most of these were in the informal sector. Another 294,000 jobs were created in the industry sector, while only 77,000 were created in agriculture, as agricultural output contracted in roughly the same period. The quality of employment remains a challenge as the rate of underemployment increased from 18 percent to 18.7 percent. The reduction in poverty incidence between the first half of 2012 and 2013 indicates that growth is becoming more inclusive.

The reduced contribution of the manufacturing sector to the Philippine GDP and a decline of gross domestic investment have placed the economy in a weak and disappointing competitiveness position compared to its Southeast Asian neighbours. The lack of infrastructure, the poor business environment and the level of labour force skills have diminished the Philippines’ competitiveness and its attractiveness to new investment (both local and foreign). To remedy this, the economy aims to increase productivity by supporting industries with high growth potential. BPOs, for example, could contribute estimated revenues of up to USD 25 billion by 2016. Metro Manila is where much of the BPO activity is taking place. The area has a growing number of BPOs and IT parks and centres; and most of the 770,000 BPO workers in the Philippines are found there.
The Philippine Development Plan 2011–2016 noted that the agriculture and fishery sector remains a major contributor to employment and job creation. However, the services sector is now the largest and fastest-growing. In this case, Metro Manila’s advantage is to
strengthen these sectors through investing in knowledge and skills to enhance the quality and quantity of its workers.\textsuperscript{458}

Another sector which can be further explored in Metro Manila is the micro, small and medium enterprises (MSMEs). In 2010, MSMEs contributed to 47 percent of the total employment in the economy. Significant reforms are required, however, to enable the services industries to become more competitive regionally. Metro Manila, which has the highest number of industries and services, must be able to attract more investment, both local and foreign, to these sectors.

9.4.2 Social Sustainability: Policies and Measures

Despite the consistent growth, social challenges have grown. The Philippines is a lower-middle-income economy, historically characterized by an uneven distribution of assets and unequal access to opportunities, resulting in one of the highest income inequalities in the region. Intra-urban inequities in Philippine cities are high (Figure 9.6). Manila’s Gini coefficient is 0.41 – above the international alert line for inequalities, raising concerns of negative social, economic and political consequences. It is, however, not as unequal as some rapidly developing cities in China; Thailand; and Viet Nam.\textsuperscript{459}

Economic growth has been insufficient to provide sustainable employment for lower-skilled, low-income and vulnerable groups. Unemployment rates have been in decline since 2003 but are still high. With unemployment at 12.8 percent, Metro Manila displays a higher unemployment rate than the national average of 7.4 percent. As indicated, progress in reducing unemployment is hampered by the pace of economic growth, which is insufficient to absorb all new labour force entrants. Service sector opportunities are characteristically skills oriented and inadvertently increase inequality of access for disadvantaged groups. Greater effort is required to link educational attainment, vocational training and skills development for employment creation in the manufacturing and industrial sectors, to reduce regional disparities and promote inclusive growth.
Housing is a challenge for Metro Manila – and indeed the Philippines more generally. The housing market has become a source of social exclusion. The production of affordable housing is well below needs, leading to crowding and the emergence of slums. Policies to relocate squatter households to the periphery of Metro Manila have been counterproductive and ineffective. The lack of any effective low-income housing process is a potential source of social instability.

The results of existing policies are reflected in the ranking of Manila in the ‘social and cultural character’ category of the Economist Intelligence Unit’s Hot Spots index. The city received a score of 65.8, positioning it at 60th out of the 120 ranked cities.

### 9.4.3 Environmental Sustainability

Metro Manila's rapidly growing population and urban sprawl, which continues to extend to the nearby suburban areas of Cavite, Bulacan and Laguna, challenges the megacity’s natural and built environments. This expansion results in the conversion of remaining open areas of the city and agricultural lands in surrounding provinces to residential, commercial and industrial areas. Current agricultural lands cannot cope with the increasing needs of the growing population; and there will be pressure to convert forest lands to agricultural use.\(^{460}\)

As more and more agricultural lands are being converted to residential and industrial uses, the economy is becoming increasingly vulnerable to food security issues. Further, the conversion of forest lands affects the ecosystem, which can result in soil degradation and

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**Figure 9.6 Intra-urban Region Inequity (Gini Coefficients)**

![Gini Coefficients Chart]

increased risks during natural disasters, e.g. flooding. Also, forests in the Mega Manila Urban Region are being degraded by informal settlements.

The Philippine Agenda 21, a blueprint for the implementation of sustainable development, was adopted in September 1996. The Agenda is based on the imperatives of the situation in the Philippines and the emerging landscape for sustainable development; and looks at the different ecosystems (coastal/marine, freshwater, upland, lowland and urban). However, the Agenda, which has been in existence for almost 20 years, needs to be reviewed to address current sustainability issues. For example, the action agenda on urban ecosystems needs to be updated to reflect the environmental issues facing Metro Manila today.

Environmental issues are a major challenge for the Mega Manila Urban Region, and include recurrent flooding, traffic congestion, air pollution, water pollution, sea-level rise and land subsidence. Manila is the largest urban agglomeration in the world at high risk of all the main disaster types – cyclones, floods and earthquakes. Encroachment along riverbanks and fragile coastal areas, lack of appropriate sewage disposal facilities, inadequate sewerage connections, and improper waste disposal, all cause environmental degradation of the waterways in the Philippines, increasing potential health risks to residents. Similarly, the deficit in urban infrastructure facilities further aggravates the vulnerability of coastal settlements to flash floods caused by upland deforestation and soil erosion. Water supply, sanitation, flood control, and solid waste management systems are inefficient and inadequate compared with demand. As such, the urban sector requires continued assistance in upgrading infrastructure facilities.461,462

In 2011, a Water Security Legacy Plan was laid out by the Metropolitan Waterworks and Sewerage System. The plan encompasses strategies to: improve water infrastructure, in particular through securing and maximizing Angat Dam; identify short-term water sources; and reduce non-revenue water by exploring new technologies and groundwater management.463 Angat Dam supplies 95.5 percent of Metro Manila’s water, with the rest taken from Laguna Lake and groundwater sources.464 However, the megacity’s growing population makes it hard for the Angat Dam to continue to meet demand. In the last five years, the dam’s water levels have fluctuated, particularly due to recurring summer dry spells, and reached critical levels of below 180 metres. In 2010, the Angat Dam reached an all-time low of 157 metres; the dam’s normal high water level is 212 metres.

The Angat Dam and Dyke Strengthening Project, approved in September 2012 as part of the Water Security Legacy Plan, aims to increase water storage while managing the water level and mitigating flooding in surrounding towns.465 The project commenced work in July 2015 and is one of the key infrastructure projects for the Metropolitan Waterworks and Sewerage System. The project represents a significant step, as the Angat Dam and Dyke has not had any major rehabilitation work done to it for more than four decades.

The expansion of Metro Manila has diffused the land-use pattern of the metropolis, increasing the commuting distance for many residents and raising the demand for basic services and infrastructure. The transport sector has been lagging in addressing current issues of traffic, public transportation, and road networks. Local transportation that use routes in and around the city vary from pedicabs and tricycles to jeepneys, buses and taxis. There is no integrated transportation system and these different types of public-use
vehicles clog the road networks of the city. The rail systems, while operational, are also in need of an upgrade, having experienced frequent breakdowns and service disruptions since 2010.

With the ongoing expansion and population growth of Metro Manila, the metropolis continues to choke on its carbon dioxide emissions, due to the growing number of transportation and industries. The Philippines was ranked 39th in the world in 2005 in terms of overall greenhouse gas emissions, with about 142 million tons of carbon dioxide equivalent, excluding emissions due to land-use change. Based on trends in emission growth, policy conditions affecting primary energy supply and demand, and estimated abatement costs, the greenhouse gas emission reduction priorities should be in the power and transport sectors which account for 36 percent and 32 percent respectively of total energy carbon dioxide emissions (see Figure 9.7).

Old technologies are a significant part of the problem. In the transport sector, 3.5 million registered motorcycles and tricycles release 10 million tons of carbon dioxide and consume close to USD 3 billion worth of fuel per year. New transport technologies like e-jeepneys are an option to mitigate transport emissions. There is need to redesign the transportation system to include an effective bus-rail-transit system integrated into the existing rail system. The current jeepney and bus routes should be phased out slowly to make way for the bus rapid transit and feeder system that will help decongest major thoroughfares. Pedestrianization and the development of pocket parks can also help mitigate transport emissions and encourage pedestrians to walk, cycle and use public transportation.466

The poor outcomes of existing policies are shown in Manila’s low ranking of 94th in the ‘environmental and natural hazards’ category of the Economist Intelligence Unit’s Hot Spots index.
9.5 EFFECTIVENESS OF URBAN GOVERNANCE

The institutional structure for delivering urban services in the Philippines is complex (Figure 9.8). Compounding this is the fact that there is no overarching structure for the governance of the Mega Manila Urban Region.

In Metro Manila, which was designated a special development and administrative region comprising 17 cities and municipalities in 1995, the Metropolitan Manila Development Authority (MMDA) has a key role. The policymaking body of the MMDA is the Metropolitan Manila Council, which is made up of all the mayors of the constituent local governments, the president of the Metro Manila Vice-Mayors League, the president of the Metro Manila Councillors League, and heads of Philippine government agencies. The MMDA is financed from a seed fund; budgetary appropriations from the Office of the President; fines, fees and charges; and contributions from constituent local governments.

The MMDA coordinates between the 17 cities and municipalities of Metro Manila on the design and implementation of medium- and long-term development plans. It also has regulatory and supervisory authority over metro-wide services. While the establishment of the MMDA has introduced a level of central planning, monitoring and coordination, significant governance gaps remain:

\[The \text{ MMDA} \text{ prepares comprehensive development plans that are neither officially adopted nor followed. Municipalities and cities issue zoning codes and regulations that are not coordinated with metro-wide plans. MMDA is supposedly in charge of transport and traffic management, but the central government controls the financing,}\]
construction and maintenance of roads and bridges. MMDA is in charge of garbage disposal, but provinces and municipalities will not allow it to set up sanitary landfills or dumps within their territories. MMDA handles urban renewal, but housing funds are controlled by the National Housing Authority and other agencies. MMDA has no control over the water system, which has been privatized, nor over the design and construction of rapid transit systems and toll roads, which have also been privatized.

These structural and jurisdictional issues are major stumbling blocks to effective governance of the metropolitan region.

Figure 9.8 Institutional Structure for Delivering Urban Development


9.6 PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT

Ideally the MMDA should lead the overall urban development of Metro Manila; and this in turn should guide the 17 member cities and municipalities in forming their development plans. However, since its creation, the MMDA has failed to come up with an overall development plan that would integrate the functioning of each of the 17 member cities.
and municipalities into a working National Capital Region. It was only in 2012 that the MMDA began creating a Metro Manila Master Plan called Green Print 2030.

Each city and municipality across the Philippines is mandated to develop a Comprehensive Land Use Plan (CLUP) to guide its growth. These CLUPs are anchored on the Philippine development plan and regional plans. In Metro Manila, there is no regional development plan or Metro Manila Development Plan; and each of the 17 cities and municipalities in Metro Manila created its own CLUP anchored on the Philippine development plan. Thus, the CLUP of any one of the cities and municipalities is not integrated with the rest of Metro Manila. Each city’s or municipality’s CLUP also does not complement that of other cities within the megacity. Each local government unit can partner with private corporations for various projects within its city.

If Metro Manila is to go forward with its Green Print 2030 plan, it needs to reassess the value of the MMDA as a governing body for the whole of the megacity. At present, the MMDA has no direct control of the budget for planning and implementing metro-wide projects, nor does it have direct control of operations and management; there is thus a need for its role to be clarified. A stronger partnership between the MMDA and the various agencies and cities in Metro Manila is needed, ideally, with coordination of key infrastructure across the Mega Manila Urban Region clearly defined.

**9.6.1 Metro Manila Green Print 2030 Strategy**

The Metro Manila Green Print 2030 is a means to integrate the 17 cities and municipalities within the megacity. The plan has three main parts: the zoning or land-use plan; the street and transportation network plan; and the green open space plan. At present, the largest city in Metro Manila, Quezon City, has anchored its plan, the Quezon City Central Business District Plan, to Green Print 2030. The Plan is also called Triangle Park on account of the shape of the area and its location in the city’s West Triangle District (Figure 9.9). It showcases a CBD that is a walkable, mixed-use community near transportation hubs. Quezon City hopes that their initiative will serve as a model for Metro Manila.
The World Bank is supporting the development of the Green Print 2030. This strategic partnership with the World Bank allows the MMDA to strengthen its capacity and role in metropolitan planning.

An area for consideration under Green Print 2030 is partnering with civil society and civic organizations. Such organizations can be key advocates of inclusive city development; and they can be strong allies and watchdogs in formulating and implementing development plans. However, such partnerships require structures. The Philippine Business for Social Progress that partners with local governments and poor communities to upgrade housing and local areas is an example of such a partnership. Its project is called STEP-UP (Box 9.2).

The potential for effective partnerships includes Quezon City, home to the Philippines’ leading universities, and a network of non-government organizations. In particular, the University of the Philippines School of Urban Planning and Regional Development, and the College of Architecture are key resources. The involvement of academe could spark intellectual debate and knowledge exchange between experts, as well as among the private and public stakeholders in and around the city.
A report by the Urban Land Institute, an international land development NGO with a branch in Manila, has called for the application of the ‘Ten Principles for Sustainable Development’ in Metro Manila’s New Urban Core. It also advocates a similar approach to maximize the use of partnerships and engagement with a broad range of stakeholders. The institute has also suggested the creation of an Urban Development Commission to formulate and implement a Metro Manila master plan, along the lines of those developed by other organizations in, for example, Hong Kong (Harbourfront Commission), Vancouver (Urban Design Panel), and Singapore (Urban Redevelopment Authority).

Box 9.2 Private Sector Partnerships for Urban Poverty Reduction: STEP-UP

STEP-UP is a pilot project that involves the private sector in the upgrading of slum communities in Metro Manila. The project is NGO-led, and has ADB assistance to upscale an existing programme of the implementing NGO – the Philippine Business for Social Progress.

The project uses a participatory process to plan and implement project activities in the participating communities. The communities in question are squatters living on both government and private land and, in some instances, households which have bought or are buying their land under the Government’s Community Mortgage Program. The Philippine Business for Social Progress is the Implementing Agency for 2014.

The project was designed to demonstrate that a structured and significant programme of slum upgrading can be funded under corporate social responsibility programmes in Metro Manila. The ADB assistance targets 23 poor communities, or about 35,000 people, in Metro Manila, 60 percent of whom are extremely poor.

The project: (i) promotes demonstrable strategic business sector involvement in integrated urban poverty reduction programmes through a focused, strategic framework; (ii) creates a strong multi-sector coalition capable of advocating urban poverty programmes and policies in a sustainable manner; (iii) under the ADB-funded component of the project, improves living conditions of 5,823 households; and (iv) undertakes an integrated urban poverty reduction programme, including a risk reduction and management component.

9.6.2 Potential APEC Partnerships

A potential area for APEC participation, in terms of improving one of the largest cities in the world, is to encourage the creation of city stakeholder organizations geared toward sustainable urban planning and renewal. These organizations can act as catalysts for development within their cities and create dynamics within the city to involve more people in achieving the overall vision of the Green Print 2030. APEC can also participate by encouraging the development of Green Print 2030 and making the creation of this plan more transparent and available to various stakeholders.

PPPs are mainly strong, with the government relying on such partnerships to meet infrastructure needs. An existing PPP Centre overlooks this function and is operating quite well. What is required, however, is stronger stakeholder participation, through the creation of active, dynamic, knowledge-based urban planning and renewal organizations.
that have a stronghold in their cities. A balance between the partnerships of local government with private companies and civil society will be beneficial to the implementation of a sustainable urban development plan. Engagement with stakeholders is not just the practice of good urban governance but also encourages acceptance of new developments in the city.

An example of a strong civil society organization that could be replicated in Metro Manila is the San Francisco Planning and Urban Research which works alongside the academe, government and various networks in creating a liveable and sustainable urban environment in San Francisco. It is a member-supported non-profit organization involved in urban issues in that city. In addition to development planning activities, San Francisco Planning and Urban Research carries out advocacy work and knowledge and information dissemination. The organization has a strong research arm that makes it a well-respected planning group.

9.7 CONCLUSIONS

While efforts within the Mega Manila Urban Region to put in place the supports needed for sustainable development are considerable, significant challenges remain, particularly in the areas of fiscal, social and environmental sustainability. The Mega Manila Urban Region is turning into an urban region almost of the scale of Shanghai, but lack of modern transport infrastructure counteracts this economic dynamism. Lack of investment has generated diseconomies that, in many instances, counterbalance agglomeration benefits. Key lessons include recognition of the significance of central and local governments working together to build the enabling environment for service sector development and essential infrastructure.

Several areas of challenge need to be addressed. Innovation systems need to be boosted. Significant investment in human capital development and support to SMEs are necessary to enhance productivity, support higher value-adding industry, and to absorb the lower-skilled. Strategic infrastructure, particularly transport, social and environmental infrastructure, needs to be further developed as a high priority. In terms of governance, there is a need to coordinate better the response to these challenges across public and private sectors. A strengthened and well-resourced National Competitiveness Council could form the basis of a focal point to foster innovation through coordination of development programmes in the Mega Manila Urban Region across the three dimensions of sustainable development (economic competitiveness, social development and environmental improvement).