

# Country Update Myanmar



**December 2018**

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# OVERVIEW

After decades of isolation, Myanmar's borders are now open to the international community. Agriculture remains the lifeblood of the economy, accounting for 60-70% of employment and ~38% to the country's GDP whilst feeding the population of around 54 million people<sup>1</sup>.

Myanmar has abundant water resources. The country is blessed with a wealth of water resources, with ~19,000 m<sup>2</sup> per capita annually (9 times the amount in China and 5 times that of Vietnam) available within the country's borders<sup>2</sup>. However, with a lack of infrastructure and the spatial and temporal distribution of water resources (80% flows during monsoon season) available around the country, Myanmar still suffers from a multitude of water challenges. Droughts in the Dry Zone (a main agricultural region), flash flooding in Yangon, as well as flooding and salinization in the Ayeyarwaddy delta region means that urban and rural areas are in need of better water-related infrastructure and management. Furthermore, industrial development and rapid population growth have added further stress on water resources and challenged the management of resources in the country<sup>3</sup>. To date, majority of investment in the water sector comes from Official Development Assistance (ODA), such as World Bank, Asian Development Bank and other development partners. In order to improve the infrastructure – including water supply and drainage systems, wastewater treatment, maritime development, water technology and agrifood projects, the government is seeking funding from ODA sources and expertise from the international community<sup>1</sup>. As the country continues to develop, especially in urban areas, there are increasing investment in the water supply and wastewater treatment sectors. In addition to international loans and assistance, municipalities are partnering with private firms through Public Private Partnerships (PPP), such as the collaboration with Hydrotek Public Company, a Thailand-based company, to build a central wastewater treatment plant and collection system in Mandalay<sup>4</sup>. Training, capacity building and knowledge sharing will remain crucial to ensure the sustainability of future infrastructure projects being developed and implemented<sup>5</sup>.

Myanmar has attracted a significant amount of investment from foreign sources, with Singapore, Japan, United Kingdom, Thailand and China leading the investment in Myanmar according to the latest data<sup>6</sup> (refer to website <https://www.dica.gov.mm/en/topic/foreign-investment-country> for the full list). Development partners are investing in large-scale infrastructure projects, as seen by the Japan International Cooperation Agency's (JICA) project to provide assistance worth US\$20 million for a water supply system in Pyigyitagon Township near Mandalay as well Kubota Group (Japan) is in the process of building a US\$108 million wastewater treatment

## Water Facts

- ◆ Only 5% of the total water available is used in Myanmar, with ~90% of that being used by agriculture
- ◆ ~90% of readily available water used in the central dry zone
- ◆ 17 million people don't have access to clean drinking water

<sup>1</sup> Asian Development Bank. (2013). *Agriculture, Natural Resources, and Environment Initial Sector Assessment, Strategy, and Road Map*. Philippines: Asian Development Bank.

<sup>2</sup> Netherlands Water Partnership (NWP). (2017). *Myanmar - The Netherlands: Partnership for Water Challenges*. The Hague: Netherlands Water Partnership (NWP); the Netherlands Embassy in Yangon.

<sup>3</sup> Ministry of Foreign Affairs. (2015). *Doing Business in Myanmar*. Yangon: Embassy of the Kingdom of the Netherlands, Yangon.

<sup>4</sup> Export.gov. (2017, July 25). *Burma - Environmental Technology*. Retrieved from Export.gov: <https://www.export.gov/apex/article2?id=Burma-Environmental-Technology>

<sup>5</sup> Export.gov. (2017, July 25). *Burma - Environmental Technology*. Retrieved from Export.gov: <https://www.export.gov/apex/article2?id=Burma-Environmental-Technology>

<sup>6</sup> Directorate of Investment and Company Administration. (2018, October 31). *Foreign Investment By Country*. Retrieved from Directorate of Investment and Company Administration: <https://www.dica.gov.mm/en/topic/foreign-investment-country>

facility over the next five years in Thilawa Special Economic Zone in Yangon<sup>7</sup>. Many countries and companies are active in Myanmar or have interest in exploring opportunities in water sector in Myanmar.<sup>8,9</sup> At the same time, political situation and recent development relating to Rohingya refugees remain factors that may play an important role in companies' decisions on their approach for and interest in the Myanmar market.

This Country Update summarizes some recent development in a number of sub-sectors in or are relevant to the water sector in Myanmar.

# ANNOUNCEMENT

## APPOINTMENT OF MR. JOHAN HEYMANS AS DELEGATED REPRESENTATIVE OF THE NETHERLANDS FOR WATER COOPERATION IN MYANMAR

Mr. Johan Heymans has recently been appointed as the Delegated Representative of the Netherlands for Water Cooperation in Myanmar. He will officially start in Yangon in January 2019.

*"My name is Johan Heymans, I will start in January as Delegated Representative of the Netherlands for Water Cooperation in Yangon. After graduating in Land and Water Management at the Agricultural University in Wageningen I have worked over 30 years in integrated water resources management worldwide. I started as associate expert for the Dutch Ministry of Foreign Affairs (DGIS) in Zambia, Indonesia and Bangladesh. Thereafter I joined DHV and continued to work in international projects in Pakistan, Sri Lanka, China, Trinidad & Tobago and Mauritius, mainly on irrigation development and river basin planning. Within DHV I switched in 2002 to the Dutch water sector and started working on climate change adaption, the Water Framework Directive and the Delta Programme. In the past 5 years I combined working as a freelance consultant in the Netherlands, China and Kyrgyzstan with lecturing Water Management at the University of Applied Sciences in Rotterdam. And now Myanmar, a beautiful country with many challenges!"*



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<sup>7</sup> The Myanmar Times. (2018, April 24). *Investor interest in New Yangon City project rises, more FDI expected*. Retrieved from The Myanmar Times: <https://www.mmtimes.com/news/investor-interest-new-yangon-city-project-rises-more-fdi-expected.html>

<sup>8</sup> Myanmar Water Portal. <https://www.myanmarwaterportal.com/news.html>

<sup>9</sup> To subscribe for the monthly newsletter over the water-related activities of the Netherlands in Myanmar, please send a subscription email to Chris Pieterse ([chris.pieterson@minbuza.nl](mailto:chris.pieterson@minbuza.nl))

# URBAN DEVELOPMENT

Myanmar is experiencing rapid urban expansion, headlined by the New Yangon City project which aims to add almost 8 million people to an already burgeoning urban population to a total of about 14-15 million by 2050. In March 2018, the formation of the New Yangon Development Council (NYDC) was announced [<http://nydc.com.mm/en>]. NYDC has the responsibility to undertake the development of the New Yangon City (for more information, refer to <http://nydc.com.mm/en/about-us/>): “NYDC is owned by the Yangon Regional Government and tasked to develop 20,000 acres of land west of central of Yangon across from Kyeemyindaing as a Phase I into an urban industrial district that will initiate creation of 2 million jobs”. A socio-economic master plan was published for the New Yangon City in September 2018 (for details of this master plan, refer to footnote<sup>10</sup>). Besides, the tender on the Urban Master Plan for New Yangon City was awarded in 2018 to AECOM Singapore<sup>11</sup>.

In particular the infrastructure works of Phase 1 will be in excess of \$1.5 billion and this includes the construction of five village townships, two bridges, 26km of artery roads, 10km<sup>2</sup> of industrial estate, power plant, transmission and distributions facilities as well as fresh water supply and wastewater treatment plants<sup>12</sup>.

# WATER SUPPLY

## Urban Water Supply

Currently a large part of available funding is invested on drinking water projects. The plan for New Yangon Development aims to alleviate some of the water supply issues facing Yangon where, due to aging water facilities, up to 60% of the 760,000m<sup>3</sup> of water supplied to the city daily is lost to non-revenue water<sup>13</sup>. According to the Yangon City Development Committee, this means that only around 2 million people of the 5.2 million people have adequate water supply. While budget constraints and lack of technical know-how currently limit access to water resources, Myanmar is working with development partners to improve the planning of future large-scale water projects to improve the water supply in urban areas. During the visit of a delegation from Yangon Region to the Netherlands earlier this year, Chief Minister of Yangon Region U Phyo Min Thein invited Dutch expertise and input on key issues related to the water sector such as water supply and port development and logistics. On 31 October 2018, a 3-year agreement was signed that incorporated Myanmar under the Dutch government’s “Partners for International Business” (PIB) programme. In this activity, Yangon’s regional

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<sup>10</sup> New Yangon Development Company. Socio-Economic Master Plan. Website: <http://nydc.com.mm/en/socio-economic-master-plan/> . Accessed November 2018.

<sup>11</sup> Myanmar Business Today. NYDC - Making Steady Progress; SEMP, Urban Master Planning. Retrieved from website <https://www.mmbiztoday.com/articles/nydc-making-steady-progress-semp-urban-master-planning> . Accessed December 2018.

<sup>12</sup> New Yangon Development Company. Website <http://nydc.com.mm/en/> . Accessed November 2018.

<sup>13</sup> The Myanmar Times. (2018, March 23). *Yangon’s water supply problems blamed on infrastructure woes*. Retrieved from The Myanmar Times: <https://www.mmtimes.com/news/yangons-water-supply-problems-blamed-infrastructure-woes.html>

government will receive support from a coalition of Dutch companies and organisations to tackle challenges regarding urban water and water logistics<sup>14,15</sup>.

Many countries and international organizations/ companies are also active in Mandalay in projects aiming to improve the water and sanitation conditions. The Asian Development Bank is working with Mandalay to upgrade its water and sanitation services via the project “Mandalay Urban Services Improvement Project”. Since 2018, Vitens Evides International is providing technical assistance to Mandalay City Development Committee on the water supply and sanitation systems in the city<sup>16</sup>.

## Agriculture/Rural Water Supply

While the overall of water available in Myanmar is abundant, there are differences in spatial and temporal distribution of water resources. Key agricultural areas such as the Ayeyarwaddy Delta region and the Central Dry zone continue to face different water challenges. While the Central Dry Zone does not have sufficient precipitation for rice production, the Delta region faces serious challenges from excessive rainfall and flooding and salt intrusion. The country and livelihood of the population are also vulnerable to natural disasters. As a consequence of cyclones Nargis (2008) and Giri (2010), many flood protection infrastructure was destroyed in the Delta region and are still in need of reconstruction. Additionally, around the country, measures are much needed to be implemented to prevent salinity intrusion by improving drainage or to ensure water resources during the dry season. At the moment, only around 20% of Myanmar’s cultivated area is irrigated, a number that will greatly have to increase to feed an ever-growing population and to be more resistant to more unpredictable climatic events in the future<sup>17</sup>. The government, along with other development partners, is planning to upgrade and expand irrigation networks in the main agricultural regions, with projects such as the Pywat Ywar Pump Irrigation Project, which targets 5,000 acres in Myanmar's Dry Zone, leading the way to modernizing irrigation networks and improving access to water resources for farmers<sup>18</sup>.

## Highlights of Recent News:

March 2018: **The Myanmar Times** - Aging water facilities in Yangon are leading to extremely high losses in distribution networks. Plans to reduce losses from 60% to 35% by 2025 and 15% by 2040. The total demand coverage of the city water supply will be raised from 40% in 2018 to 60% in 2025 and to 80% in 2040. For more information: <https://www.mmmtimes.com/news/yangons-water-supply-problems-blamed-infrastructure-woes.html>

April 2018: The Myanmar Times - The government has plans to develop the New Yangon City project, which will cover 1,500km<sup>2</sup>. Infrastructure costs related to the first phase of the project will amount to over €1.3 billion. Included in this development phase is the construction of fresh water and wastewater infrastructure and a focus on climate change adaption. Retrieved from: <https://www.mmmtimes.com/news/investor-interest-new-yangon-city-project-rises-more-fdi-expected.html>

December 2018: Greater Mekong Forum on Water, Food, and Energy will be organized from 04-06 Dec (see website <https://wle-mekong.cgiar.org/event/2018-greater-mekong-forum/#> )

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<sup>14</sup> The Myanmar Times. (2018, November 14). *Dutch expertise to support Yangon’s water management*. Retrieved from The Myanmar Times: <https://www.mmmtimes.com/news/dutch-expertise-support-yangons-water-management.html>

<sup>15</sup> The Water Agency. Myanmar Water Portal: <https://www.myanmarwaterportal.com/news/1029-dutch-expertise-to-support-yangon%E2%80%99s-water-management.html>

<sup>16</sup> The Myanmar Times. (2018, February 07). Dutch company VEI to improve Mandalay’s water supply system. Retrieved from The Myanmar Times: <https://www.mmmtimes.com/news/dutch-company-vei-improve-mandalays-water-supply-system.html>

<sup>17</sup> European Chamber of Commerce in Myanmar. (2017). *Agricultural Guide 2018*. Yangon: EuroCham Myanmar.

<sup>18</sup> Mizzima - News from Myanmar. (2018, August 23). *Water project offers hope to farmers in Myanmar's central dry zone*. Retrieved from Mizzima - News from Myanmar: <http://mizzima.com/news/water-project-offers-hope-farmers-myanmars-central-dry-zone>

# WATER TECHNOLOGY

It is worth noting that Myanmar has been quickly embracing new technologies, especially in application of mobile technologies and the spread of Internet usage in the country. The percentage of the population with access to mobile phones grew from 15% in 2013 to greater than 90% in 2018<sup>19</sup>. The government has a telecommunications master plan that awaits approval that would give high-speed internet access to 50% of the population by 2020, and extend its universal service to 94.8% of the population by the beginning of 2019. It is worth noting that in 2010, only less than 0.3% of the population had internet access<sup>20</sup>.

## Remote Sensing Data/Geo-data

The exponential rise in internet and mobile coverage has opened the door for potential geodata solutions in the provision of location specific agricultural advisory services. These services could include local, accurate weather information, location-specific advice on fertilisers, pesticides and other inputs<sup>21</sup>. VEGCAP, a knowledge and information decision-making platform for farmers funded by the Dutch government and SERVIR Mekong (US project looking into land-use and climate change) are two projects headlining this segment.

Furthermore, the improvement of remote sensing data and monitoring could have wide-ranging benefits for water resources. There are a multitude of applications ranging from hydrology, watershed management, flood plain management, drought monitoring, irrigation management, irrigated crop yield assessment among others etc. As the country grows and the demand on water resources increases, the ability to identify new aquifers or future flood-prone areas could prove vital for Myanmar.

Regarding applications in off-shore areas, multiple ministries are working together to improve the use of surveying technology and spatial information to help manage fishing resources in Myanmar<sup>22</sup>. They are interested to applying RS/GIS systems and developing facilities with GIS software and other relevant techniques. A wider range of benefits were mentioned with remote sensing data in the region, ranging from better climate prediction to improving accessibility for ships.

## Wastewater Treatment

The wastewater market in Myanmar is still in its infancy and is currently characterized by a lack of infrastructure as well as limited manpower and capacity to ensure that projects are managed efficiently. In the current situation, there is limited treatment of wastewater that is discharged into open rainwater drainage and natural waterways. Such direct discharge of industrial and domestic waste into water sources are polluting the traditional water sources. Except in larger cities such as Yangon, Nay Pyi Taw and Mandalay, there are no large-scale conventional central sewage systems. Private septic tanks are the main form of waste treatment in urban areas, however, the current transport and disposal practice of such waste is still inefficient and untreated<sup>23</sup>. In recent years, new regulations and requirements on environmental compliance have been issued. Notably, since

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<sup>19</sup> Bloomberg Businessweek. (2017, July 10). *The Unprecedented Explosion of Smartphones in Myanmar*. Retrieved from Bloomberg Businessweek: <https://www.bloomberg.com/news/features/2017-07-10/the-unprecedented-explosion-of-smartphones-in-myanmar>

<sup>20</sup> The Myanmar Times. (2018, June 21). *Upgrading Myanmar's internet access*. Retrieved from The Myanmar Times: <https://www.mmtimes.com/news/upgrading-myanmars-internet-access.html>

<sup>21</sup> AgriProFocus. (2017). *Quick Scan for Myanmar*. Report prepared for the Netherlands Space Office (NSO). <https://g4aw.spaceoffice.nl/files/countries/Myanmar/20170306%20-%20G4AW%20Quickscan%20Myanmar.pdf>

<sup>22</sup> Than, H. H. (2016). Geospatial Data Applications on Academic Platform of Mandalay Technological University. *International Land Cover/Land Use Changes Regional Science Team Meeting in South/Southeast Asia* (pp. 1-20). Myanmar: Department of Meteorology and Hydrology.

<sup>23</sup> Water and Sanitation Division of Ministry of Construction. (2017). *Current and Future Challenges of Water Environment and Wastewater Management in Myanmar*. Yangon: Ministry of Construction.

2017, nine sectors are required to submit environmental management plans within one year. These sectors include food and beverage, textile, distilleries, leather work, pulp and paper mills<sup>24</sup>.

### Highlights of Recent News:

February 2018: **The Myanmar Times** - Authorities in Myanmar have begun taking a closer look at environmental issues linked to the hotel industry, such as sanitation and wastewater treatment. Currently, only 5 hotels in Myanmar meet ASEAN Green Hotel Awards standards. Regional officials have started taking action, with some informing all hotels in the region to install water purification systems and set up wastewater treatment facilities as soon as possible or face cancellation of their licenses. Retrieved from <https://www.mmtimes.com/news/myanmar-aims-harmonise-hotel-industry-environment.html>

April 2018: **The Myanmar Times** - Heineken invested over €8.5 million to open a new wastewater treatment plant at the end of 2017. It also released information that it had reduced the volume of water in the brewing process by 33% compared to the year before. Retrieved from <https://www.mmtimes.com/news/heineken-raises-sustainability-efforts-competition-heats.html>

# PORT DEVELOPMENT & INLAND WATERWAYS

In order to keep up with national economic growth, the port facilities and the management of inland waterways will need to be upgraded substantially<sup>25</sup>. Myanmar has a total of 9 ports (including both existing and under construction ports) in the country located in Yangon, Sittaway (Sittwe), Kyaukphyu, Thandwe, Pathein, Mawlamyine, Dawei, Myeik and Kawthaung cities. Yangon handles the majority of maritime trade, with 85% of Myanmar's import and export going through the port. In July of this year alone, maritime trade volumes were up by €1 billion over the same period last year<sup>26</sup>. This has led to expansion works to increase the vessel capacity in Yangon, as well as joint venture initiatives around the city. Due to high amounts of sediment build-up, and ships often have to wait until high-tide to exit the port, there is continuing needs for dredging of Yangon River. Dredging helps alleviate the problem and create easier access to the port and shipping routes<sup>27</sup>.

Additionally, Mandalay is another location that has been targeted for inland waterway transport development. Trade is often conducted via water routes from Mandalay to other regions of Myanmar. However, due to the underdeveloped port, loading and unloading cargo along the river is still done manually rather than by machine, limiting the ports effectiveness. Presently, the planned modernization of the port will begin in early 2019<sup>28</sup>.

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<sup>24</sup> The Myanmar Times. (2017, November 16). Nine sectors asked to submit EMPs within a year. Retrieved from website <https://www.mmtimes.com/news/nine-sectors-asked-submit-emps-within-year.html>

<sup>25</sup> Embassy of the Kingdom of the Netherlands. (2016). *Maritime in Myanmar*. Myanmar: Embassy of the Kingdom of the Netherlands.

<sup>26</sup> The Myanmar Times. (2018, July 31). *Trade volume rises but rice export falls*. Retrieved from The Myanmar Times: <https://www.mmtimes.com/news/trade-volume-rises-rice-export-falls.html>

<sup>27</sup> Consult Myanmar. (2018, May 21). *Star High Asia Pacific granted dredging rights in Yangon River*. Retrieved from Consult Myanmar: <https://consult-myanmar.com/2016/05/13/dredging-makes-for-easier-access-to-yangon-port/>

<sup>28</sup> The Myanmar Times. (2018, October 19). *The Myanmar Times*. Retrieved from Mandalay port development project to take off early next year: <https://www.mmtimes.com/news/mandalay-port-development-project-take-early-next-year.html>

There are also plans to develop a deep-sea port as part of a Myanmar-Chinese cooperation at the Kyaukphyu port in the Rakhine region worth over €1 billion.

### **Highlights of Recent News:**

November 2018: **The Myanmar Times** - Myanmar and China signed the agreement on the development of the 1.3 billion USD deep-sea port. Retrieved from: <https://www.mmtimes.com/news/kyaukphyu-port-what-happens-next.html>



# UPCOMING EVENTS IN 2019

Date	Location	Event	Description
01-03 August 2019	Yangon	Renewable Energy Expo	The only dedicated Renewable Energy technology/equipment event that brings together an international assortment of governmental and private renewable energy companies, suppliers, as well as its supporting industries. <a href="http://www.renewmyanmar.com/">http://www.renewmyanmar.com/</a>
01-03 August 2019	Yangon	WaterTech Myanmar	An international exhibition in Myanmar on water management and showcasing technologies and latest advances for those in municipality water and sewerage, industrial wastewater, purification, irrigation and water resources management industries. <a href="http://www.water-myanmar.com/">http://www.water-myanmar.com/</a>
26 September 2019	Yangon	Agri Myanmar	Leading agriculture event in Myanmar for business cooperation, networking, potential market entry
October 2019	Yangon	Myanmar Water	Provides a platform to meet and connect with water and wastewater industry's professionals, trade buyers, distributors, government representatives
November 2019	Yangon	MyanWater	This is an international water and wastewater technology show which discusses various technologies relating to the water and wastewater management.
November 2019	Yangon	Myanmar AgroTek/FoodTek	"International agricultural technologies & water treatment in Myanmar." Displays products relating to Agricultural Equipment & Machinery, Agro & Food Processing, Aquaculture, Biotechnology, Horticulture, Irrigation and Water Technologies,

*\*Dates and events are subject to change, please check for updates for exact dates and venues*