

THE IMPACT OF COVID-19 ON THE CONSTRUCTION SECTOR OF THE MALDIVES

Phase 1: Initial Assessment
August 2020



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**A Study By
The Maldives National University**

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1. Introduction

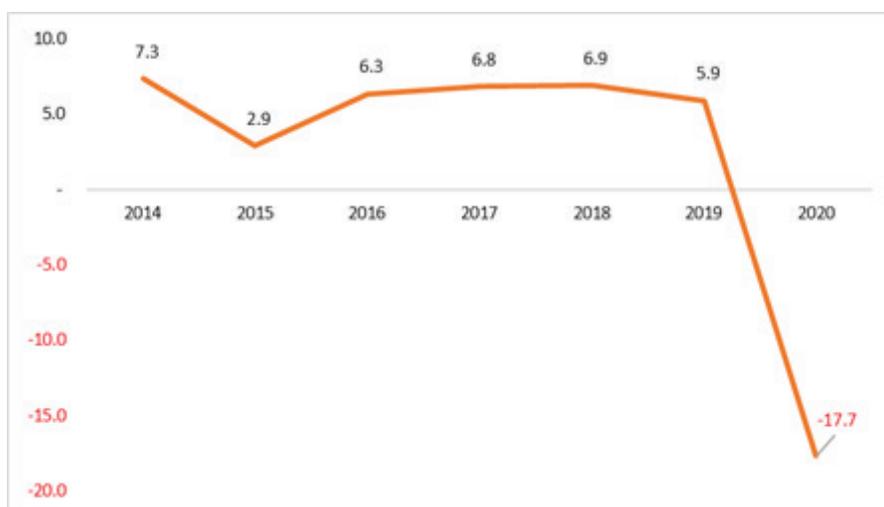
Construction is an increasingly important sector in the Maldivian economy. For the past several years, construction sector GDP hovered around the second or third highest in the economy. However, the sector has been adversely affected from the onslaught of the COVID-19 pandemic as unprecedented prevention measures had to be taken, globally and in the Maldives that severely restricted people’s movements, business operations, and economic and social activities. (See Annex 1 for a timeline of key global and domestic events of the pandemic).

Hence, in the wake of this pandemic, this study was commissioned by the Ministry of National Planning, Housing and Infrastructure (MNPFI) and being conducted by researchers at the Maldives National University (MNU). The broad objective of the study is to assess the impact of COVID-19 pandemic on the construction sector. A more elaborate discussion of the sector follows in the relevant sections below and the detailed terms of reference of the study is attached as Annex 2.

The study is divided into two phases: this report which is a preliminary assessment based on the available literature is the first phase; and the second phase is planned to comprise a survey of construction sector including a survey of sector specific specialist service firms.

2. Economy

According to the Maldives Monetary Authority (MMA), economic growth will “decline significantly” this year due to the impact of COVID-19 (MMA, 2020). Tourism, the biggest driver of economic growth came to an unprecedented halt after March when the border was closed to prevent the import of the disease. There were no tourist arrivals since then for the entire duration of the second quarter and bed-nights fell 99 per cent.



This, combined with the full lockdown in the greater Malé region choked economic growth significantly. (MMA, 2020)

Chart 1: Real GDP growth rates (at market prices)

activities, including, among others, construction, and a painful slump in economic growth is being felt across all sectors of the economy. The MMA (MMA, 2020) estimates that annual GDP will fall by 17.7 per cent this year (Chart 1) which is likely to adversely affect the growth of the construction sector among others. International financial institutions also foresee that the Maldives economy will fall sharply this year. The International Monetary Fund (IMF) projects GDP growth to be about -8.1 per cent this year (IMF, 2020), while the Asian Development Bank (ADB) projects the growth to be -11.3 per cent (ADB, 2020)

3. Significance of construction sector

While tourism has remained the dominant sector in the economy, the construction sector has been gaining importance in the economy in the last couple of decades.

3.1. Gross domestic product



Chart 2: Sectoral GDP, MVR millions

In 2019, the construction sector added MVR 4.8 billion (Chart 2) to national GDP.

However, out of the main productive sectors (i.e. excluding public administration), tourism added MVR 19.7 billion (the highest), followed by transport and communication (MVR 9.8 billion), wholesale and retail trade (MVR 5.2 billion) and real estate (MVR 4.8 billion).

Public administration, which takes account of services produced by public sector payroll personnel added MVR 6.1 billion in 2019 (MVR 5.8 billion in 2016).

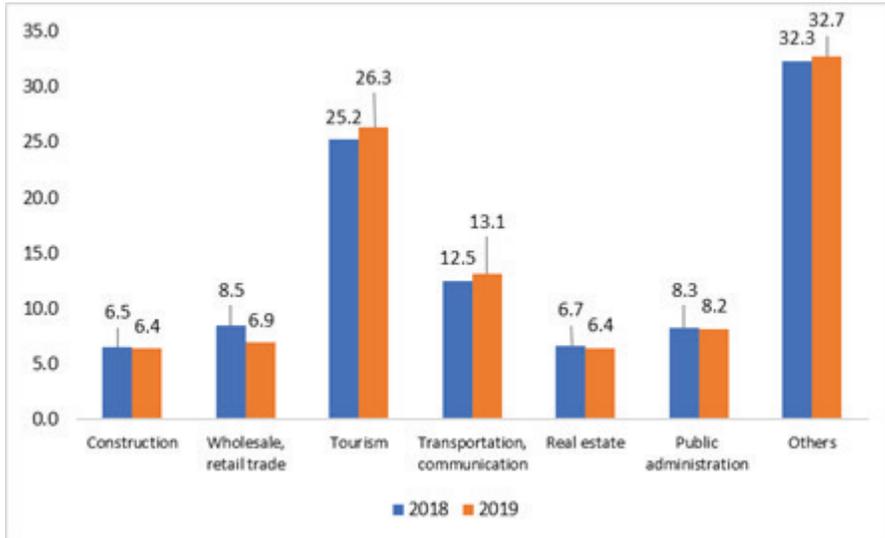


Chart 3: Shares of sectoral GDP, %

Percentage-wise, construction shared 6.4 per cent in 2019 (6.5 pc in 2018); this was also the growth rate of the real estate sector for the same period (Chart 3). Excluding public administration, this was the fourth largest share of the GDP. Tourism sector contributed by far the highest share with 26.3 per cent of the total in 2019 (25.2pc in 2018), followed by transport and communication with 13.1 per cent (12.5pc in 2018), and wholesale and retail trade with 6.9pc (8.5pc in 2018). Public administration accounted for 8.2pc in 2019, compared to 8.3pc in 2018.

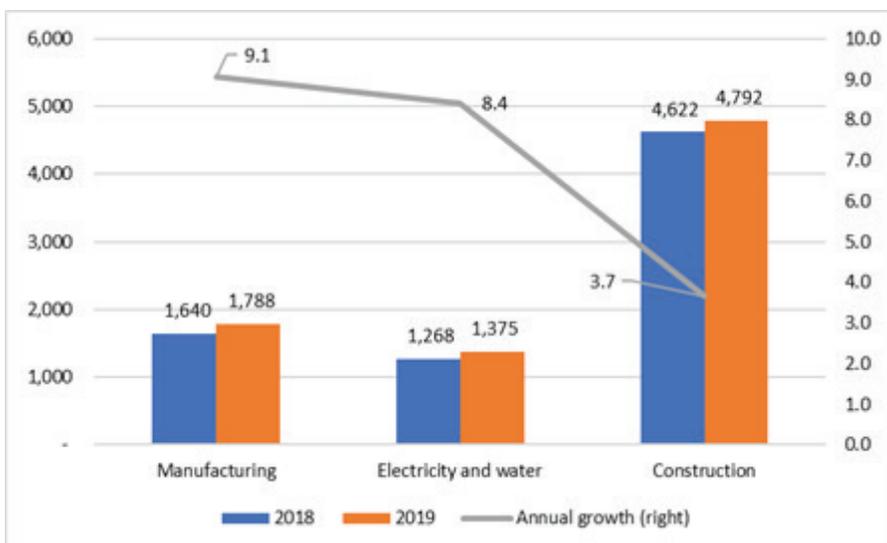


Chart 4: GDP (MVR) and growth (% , right axis) of secondary sector industries

Chart 4 presents GDP (in MVR) on the left axis, and on the right axis, percentage

growth of the secondary sector. Construction is by far the biggest contributor, adding MVR 4.6 billion in 2018 and MVR 4.8 billion in 2019. In both years, construction added over two and a half times more to the GDP than did manufacturing, the second biggest contributor to GDP in the secondary sector. For both 2018 and 2019, construction added more to the GDP than manufacturing and electricity and water industries combined, contributing over one and a half times more than the combined total of these two industries.

However, in terms of annual growth of secondary sector industries in 2019, construction was the slowest at 3.7 per cent (Chart 4, right axis), while manufacturing growth for the same period was 9.1 per cent (highest).

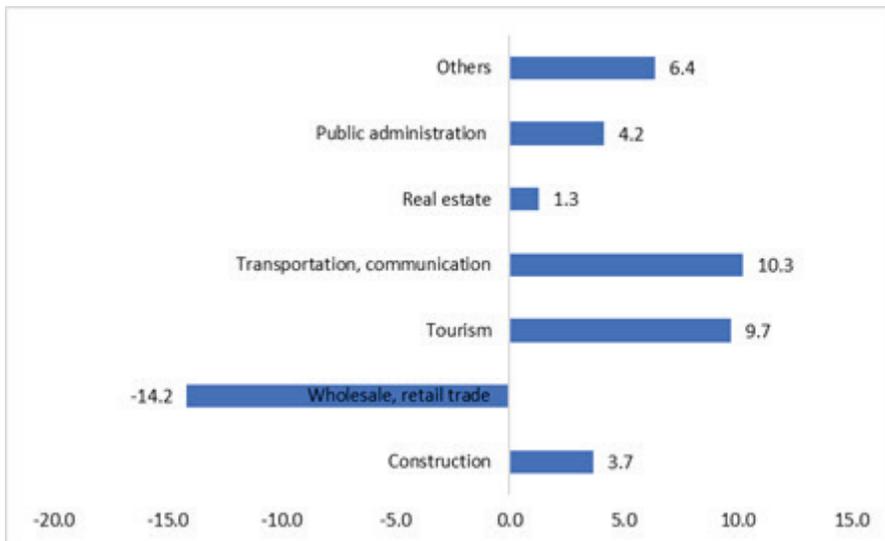


Chart 5: Sectoral GDP growth in 2019, %

In all sector-comparison, construction grew by 3.7 per cent in 2019, over 2018 (Chart 5), ahead of the real estate sector (1.3pc) while growth of wholesale and retail trade fell sharply (-14.2pc).

Transport and communication sector grew fastest at 10.3pc, followed by tourism (9.7pc).

Public administration was the third fastest growing sector in 2019, reflecting a significant increase in public services.

The comparatively slow growth of the construction sector reflects the unwinding of a number of large projects started in earlier years, most of which were carried out by SOEs and were off-budget (IMF).

3.2. Employment

Current estimates of employment in the construction sector are scarce. According to data for 2014 (the latest year for which industry-wise domestic employment numbers are available), the number of persons employed in the construction industry totalled 5,615 (Chart 6), which ranked at ninth position across all sectors,

and sixth in major economic productive sectors (Najeeb, 2020).

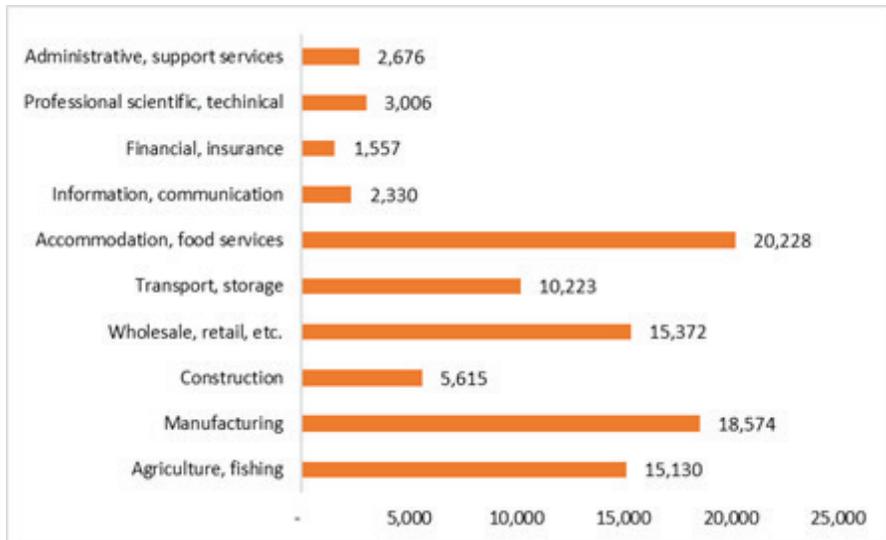


Chart 6: Domestic employment in major sectors in 2014, nr of persons

It is expected that the steady growth of the construction sector in recent years would have resulted in commensurate increase in employment in the sector as evident from a study done by Maldives National Association for Construction Industry (MNACI) According to MNACI, “about 5,000-7,000 locals are currently working in the construction industry”(MNACI, 2020).

Given the increasing importance of the construction industry in the economy, employment would have increased significantly in recent years, including both domestic and expatriate employees.



Chart 7: Expatriate employees in construction industry, nr of persons

While data is not available for domestic employment on yearly basis, it is available for expatriate employment. Chart 7 shows the increase of expatriate employees in the industry from 2013-2018 with a percentage growth of 367 per cent from 2013 to 2018 inclusive.

According to MNACI, “40,000-50,000 foreigners are currently working in construction industry” (MNACI, 2020).

These employment numbers, both for domestic and expatriate employees may have fallen considerably following the COVID-19 lockdown towards the end of the first quarter of this year. Such aspects are planned to be surveyed during the second phase of this study.

3.3. Construction sector borrowing

Chart 8 shows total loans and advances to private sector (right axis) from 2014 through to 2019 and to construction, real estate and tourism.



Chart 8: Loans and advances to private sector, MVR millions

In 2019, credit and advances to private sector construction totalled MVR 5.3 billion out of the total of MVR 24.5 bn.

This represented the second highest sectoral lending after tourism whose total was nearly MVR 9 billion. Real estate received MVR 1.8 billion during the same year. For the entire duration between 2014-2019 these positions remained the same, with tourism topping the receipt of credit, followed by construction and real estate in this order.



Chart 9: Growth of loans and advances to private sector, %

Chart 9 shows total loans and advances to the private sector (right axis) and to construction, real estate and tourism from 2014 through 2019. In 2019 total credit to private sector construction increased by 7.5 per cent, construction sector credit grew 9.5 per cent, while that of the real estate sector was 8.5 per cent followed by tourism (6.2 per cent).

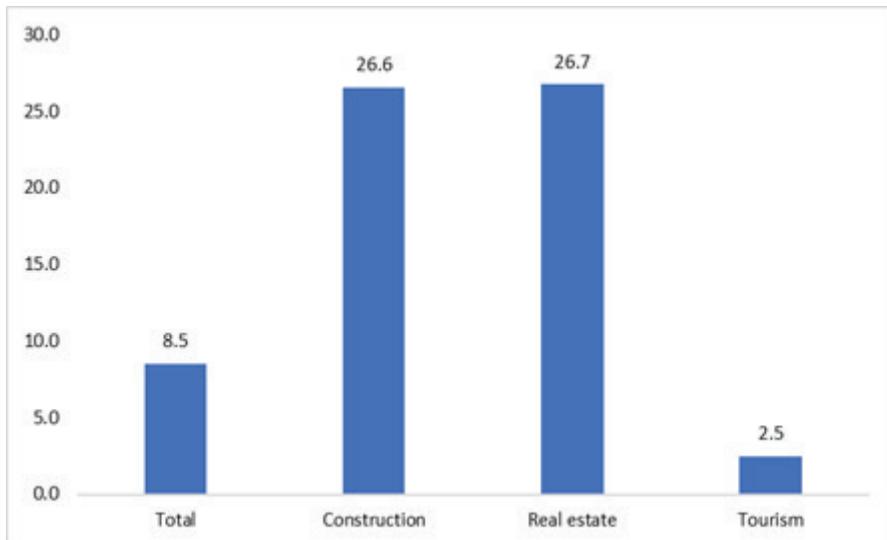


Chart 10: Average growth of loans and advances to private sector 2014-2019

As shown in Chart 10, credit to construction averaged 26.6 per cent, at par with the real estate sector from 2014-2019 inclusive.

This is over 10½ times that of the tourism sector and 3 times that of the total credit growth during the same period.

The comparatively high level of average growth of credit to private sector construction indicates a growing demand for credit in the construction sector, and an increasing appetite and willingness in the financial sector to provide credit to this sector.

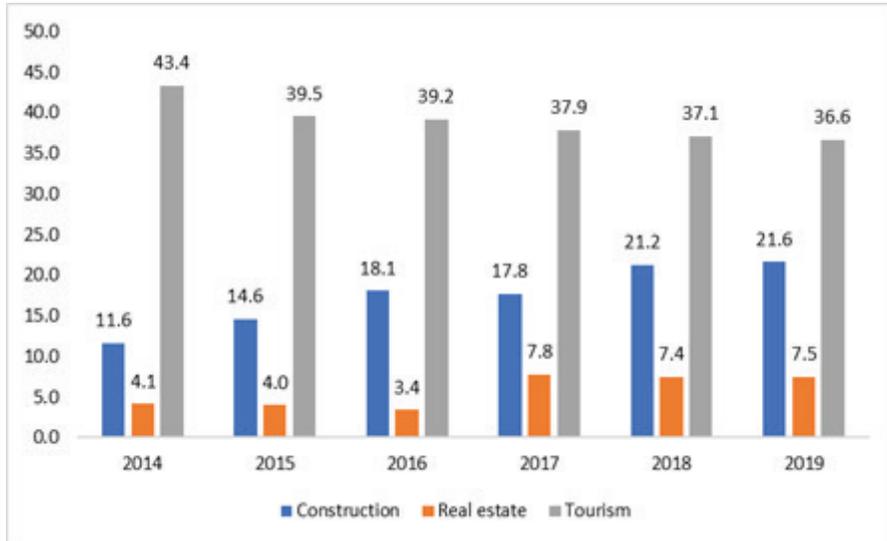


Chart 11: Share of loans and advances to private sector 2014-2019

Chart 11 shows the share of loans and advances to the private sector construction, real estate and tourism sectors.

As can be seen from the chart, the construction sector share shows a steady upward trend while the tourism sector share appears to show a declining trend.

3.4. Assessment

The above analysis indicates that the construction sector appears to have gained increasing importance in the national economy.

However, the sector is inherently characterised by a number of peculiar features. These include the following among others:

Dependence on expatriate labour: The sector relies on foreign labour for unskilled, menial as well as for professional services (IMF, 2020). Based on the midpoints of employment numbers for domestic and expatriate employees given by MNACI as described in section 3.2 above, the construction sector employs 13 expatriates for every 1 domestic employee.

Dependence on imports: The sector is also characterised by its excessive reliance on imports, which has its negative impact on the country's balance of payments

(Rashfa, 2013). Preliminary estimates for 2019 indicate that construction sector imports totalled USD 406 million, behind tourism sector imports (USD 450 million) on free on board (FOB) basis.

Dependence on foreign finance: Large projects, both infrastructure and building construction, are often financed externally. For 2020 for example, the budget envisaged a jump in capital spending by 75 per cent, to a record-high 14 per cent of the GDP financed externally (IMF, 2020).

Dependence on foreign companies: Large scale projects are awarded to foreign companies. In the past several years, much of the energy and vitality in the domestic economy was mostly derived from large scale infrastructural projects undertaken by foreign companies (Shakoor, 2019).

4. Impact of COVID-19 on construction sector

Global and domestic containment measures are leading to a substantial reduction in economic activity, with sectors such as tourism, transport, and construction hit particularly hard (IMF, 2020).

With measures that were taken by health authorities in the country there were no tourist arrivals during the second quarter of this year. Going forward, arrivals may remain subdued due to a combination of lack of confidence to travel, higher travel costs, recessions in main tourist markets and other factors that may affect travel decisions. This would translate into a large reduction in tourism revenue which in turn will adversely affect the rest of the economy including the construction sector. The findings of the assessments conducted locally by MNACI (2020) and Contractors Association of Maldives (2020) showed similarities to that of the studies conducted internationally. The impact of COVID-19 on the construction sector of the Maldives as highlighted by these two studies were:

- Disruption of projects
- Challenges of importing
- Impact on revenue and cashflow
- Challenges on recruiting
- Potential cost hikes due to depreciating MVR
- Legal challenges arising from contracts.

This study will further explore the impact of covid-19 on the construction sector of the Maldives including the impact on sector specific specialist services firms.

4.1 Operational impact

4.1.1 Guidelines and protocols

From 15 April 2020, when Malé was put under lockdown, all the construction operations in Malé were suspended. All construction related services by Malé City Council and all government authorities were also suspended due to the lockdown. At the beginning of the lockdown, permits were not issued to the security staff of the sites and for workers, it was problematic as there were restrictions put in place for movement of staff between the work site and their accommodation. Some

workers and companies were even fined due to the lack of the permits. All material supply chains and the logistic operations were also suspended within Malé and between Malé and other islands.

The advertisement by the city council dated 1st April 2020, states that all construction works that require road closure should be carried out from 9 am to 3 pm. The road closing permit was also issued by the council between 8:00-12:00 on Saturdays, Mondays and Wednesdays. Permits were issued one day ahead of planned work.

With the suspension of major construction works in Malé, there were concerns with regard to sites that were found to be dangerous if not addressed properly. Such sites where the substructure works were in the initial stages and where excavation were out, were identified as major hazard sites. So, for these sites there were meetings held by the council with the construction companies, to find a way forward. With these meetings it was decided that those sites which fall under hazardous levels should be addressed and as such, 26 sites were given permission to continue work on 5 May 2020. These were for continuing with the substructure work of the sites only.

The circular dated 1 May 2020 by HPA states that certain guidelines should be followed when resuming construction work. Under this guideline, 56 sites were allowed to continue the work due to the presence of substructure works that were in progress when the lockdown started on 15 April 2020 (HPA, 2020). The HPA circular also highlighted that the application should be through the council via a separate form. Most firms faced delays in getting this approval due to the miscommunications among the relevant authorities.

4.1.2 Permits

From 31st May 2020, construction sites were given permits under the guideline provided by HPA and MED. When applying for the permits to resume work under the lockdown measures, specific documents and conditions were to be met by the contractors. One notable factor was that the foreign workers should have a valid work visa. And for the Maldivian workers, they should be registered under the pension fund. As there were a lot of illegal workers, some contractors found it difficult to manage their workforce while applying for this special permit. With these criteria and guidelines in place for major firms, the permits were held until they resolved such irregularities. As of 9th July 2020, around 338 sites were given permission to continue with their work (Male City Council, 2020).

Before the lockdown, there was not much differentiation among the work site permits. During the lockdown, there were restrictions to the number of workers, working days and hours, and these varied from one construction site to another. These limitations were set by the council after evaluating the logged applications by the contractors. Before the lockdown, normal working hours for most construction sites were from 8am to 6pm. With special permits, works were also carried out during the night hours. During the lockdown, the work hours were limited to 10:00 to 16:00. With the restriction in work hours and certain restrictions to work sites, there were delays in the delivery of projects and contractors had to reschedule their work plans. This is believed to lead to high costs incurred to contractors.

Along with the permits there are certain workplace procedures to follow if

working at the sites during lockdown. These included wearing safety masks and heavy duty-gloves by all site workers; maintaining social distancing; fixing hand washing stands; logging site attendance; body temperature check for all workers before work; uniform code; movement restriction and setting a monitoring mechanism inside the construction sites to ensure whether workers follow all the safety and guidelines. It is believed that with these additional protocols, the contractors will bear additional costs, such as procuring PPE equipment, sanitizers, thermometers etc. Also, as it is a construction site, it would be nearly impossible to maintain social distancing while carrying out certain construction works. Site work procedures may add the cost for the contractors.

The workers are not issued individual passes, but rather to the vehicle, so movement was hugely restricted, and for some contractors it was difficult to send their workers to the site due to the unavailability of individual permits and vehicles.

4.2. Contracts

Construction projects were gradually slowing down with the beginning of the pandemic and the social distancing advisory and work curfews established. Official business of government offices were suspended on 19 March 2020 and this also contributed to the slowing down of works pending related permits from various authorities. Government offices reopened at the beginning of July 2020 followed by the opening of borders on 15 July 2020. Operations of construction projects have resumed with new normal guidelines imposed by the HPA.

4.2.1. Public sector (government, SOEs) projects

At the time of writing, a total of 150 public sector construction projects were ongoing across 116 islands of the Maldives. In addition to this, 108 consultancy projects were also being carried out which were at various stages of survey and design.

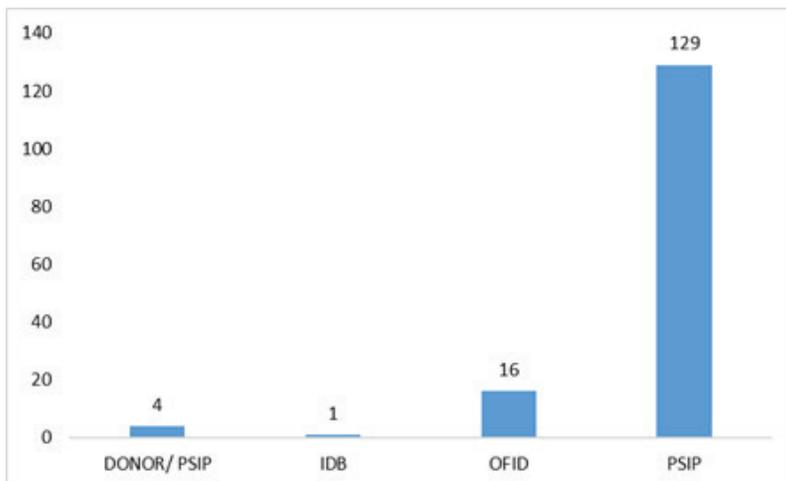


Chart 12: Funding categories for ongoing public projects

Of the current public construction projects, 86% of the projects are PSIP projects. The remaining projects are funded by OFID, IDB and a combination of donors and PSIP. Chart 12 shows the breakdown for project funding.

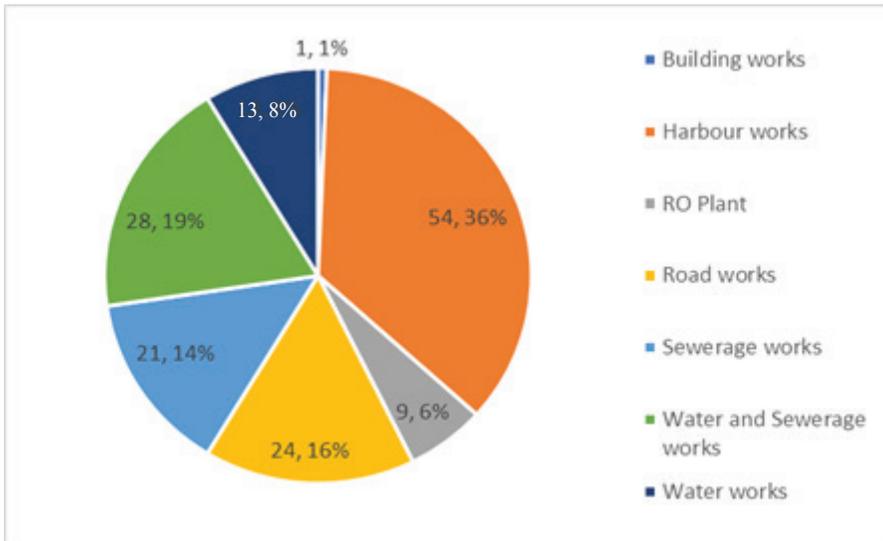


Chart 13: Types of ongoing public projects

These consist of important infrastructure and development projects needed for the public and can be categorised into seven major types.

Chart 13 shows the projects broken down into seven major categories. With 54 projects, the largest portion on the projects consists of harbour works, which amounts to 36% of the total.

More than half of the projects are less than 25% complete, while over 25% of the projects have completed 75% of the work.

Chart 14 shows the breakdown of current project status.

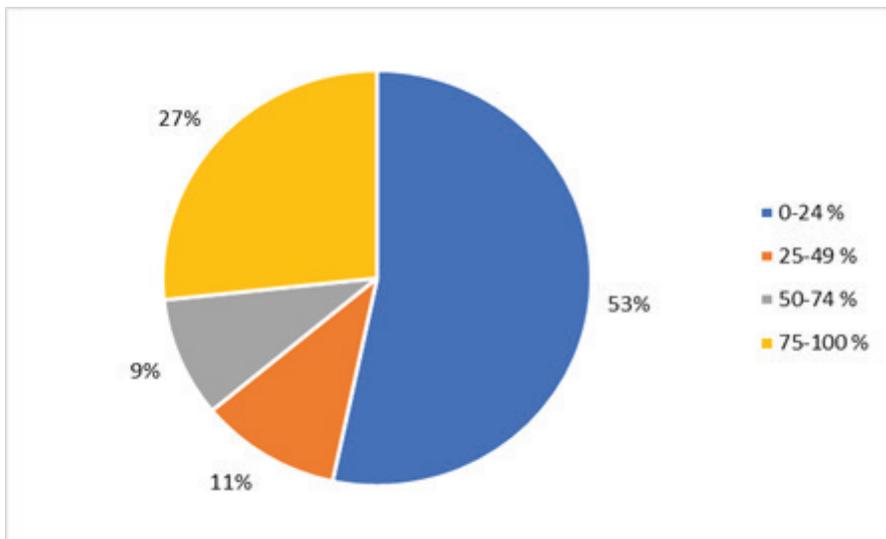


Chart 14: Work progress of ongoing public projects

A small portion of the projects have been affected by the COVID-19 pandemic, according to information which have been provided by the Ministry of National Planning, Housing and Infrastructure.

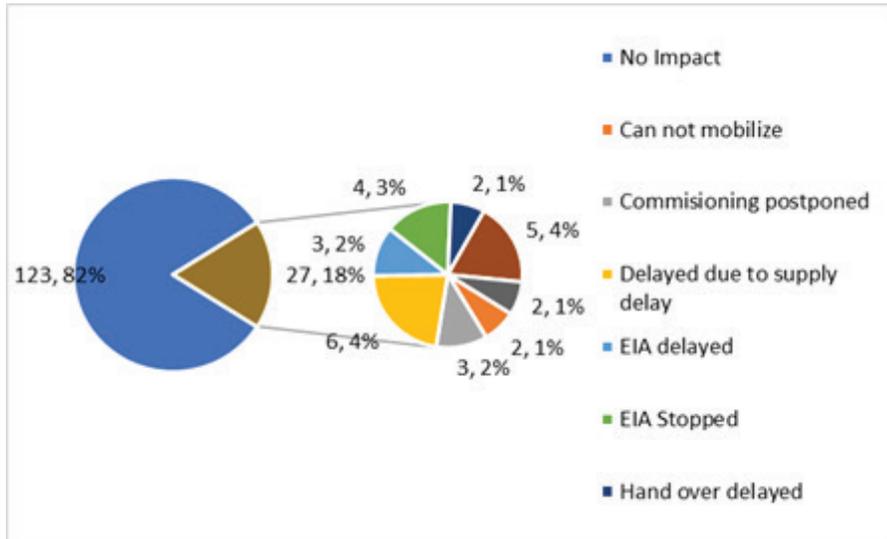


Chart 15: Impact of COVID-19 on current public projects

Chart 15 indicates how government construction projects have been affected by the pandemic. Out of a total of 150 projects 18% has had some level of impact on them. These include, delays due to supply chain delays for six projects and testing and handover delayed for nine projects which are at the final stages of the project. Two projects have been identified as facing challenges in mobilisation due to the pandemic and the restrictions imposed as a safety measure.

Majority of the projects have not suffered a direct impact as they are being conducted in various atolls which did not have a movement restriction imposed on them.

Indirect impacts of COVID-19 pandemic should also be taken into consideration. During the lockdown there was a total suspension of work on all building construction works, and this has implications on completion dates. Further, as works resume and gradually pick up, the mandatory requirement to comply with health and safety procedures continue to be in place.

4.3. Supply chain of construction sector

The supply chain in the construction industry is the collection of various entities responsible and contributing to produce a product. The supply chain of the construction industry can be unique compared to the typical supply chain of another industry where a single product could be mass-produced. In contrast, each product in the construction industry is different and built once. The products include various infrastructure ranging from buildings, roads, tunnels, water and sewerage pipe networks, harbours, bridges and dams. Most of the built infrastructure

are too intricate and require multiple skills and expertise for the successful delivery of the finished product. A single organisation or an individual does not possess all the technical and financial capacity required to deliver a product. One organisation might be competent in designing but would not likely have the workforce or the equipment required for the construction. Similarly, a contractor would have the capacity to build the product but might not possess adequate stocks of materials or means to purchase the materials required for construction. Therefore, all the entities with different capacities join together, ideally contractually, to build and deliver the contracted works.

The construction industry entails production of goods and services. Construction activities in a project could be grouped into upstream and downstream activities. The upstream activities are the planning and designing phase before the construction process. Services mainly characterise the upstream activities. The downstream activities involve the construction phase and is characterised by the production of a tangible good. Contracting, subcontracting and material supply mainly characterises the downstream of the supply chain.

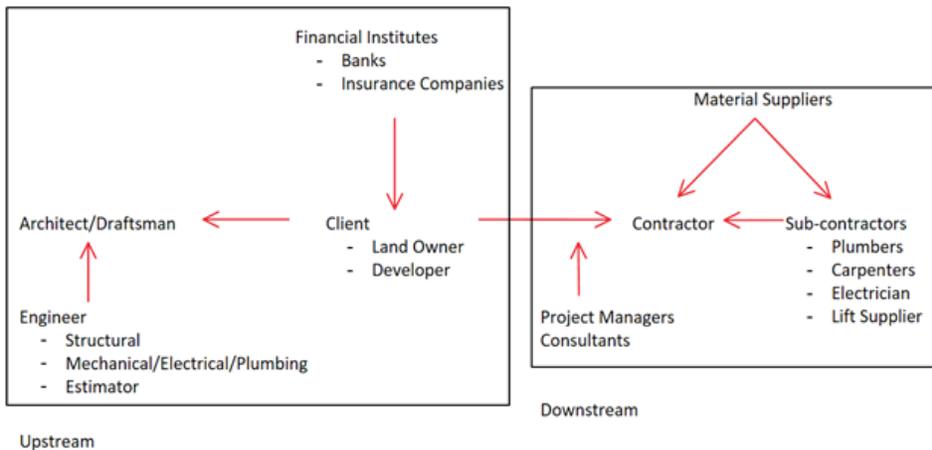


Figure 1: Typical supply chain of a traditional building project in Maldives

The typical supply chain of the construction industry of Maldives can be described as traditional. The main entities involved are the architects, engineers and contractors. The model illustrated in Figure 1 describes the supply chain adopted in a traditional building project in Maldives. Most of the residential and commercial building projects follow this supply chain where the upstream is the first tier of supply and the downstream is the second tier of supply. There could be variants of this model. In contrast, the supply chain is different in a design-build contract where the contractor is the main supplier of both the design and the construction for the client.

A project initiates with a client. The client could be a landowner or a developer. Often a contractor could also be acting as a developer. The client employs an architect or a draftsman who would oversee the design phase. Architectural plans are developed and passed on to the engineers to design the structure and the

mechanical, electrical and plumbing (MEP) components of the building. The architectural and engineering drawings are forwarded to the estimator to estimate the quantities and cost. The cost estimation is often done by the contractor to incorporate the cost of the construction in the estimated building cost. The architects, draftsmen and engineers could either be registered personnel working individually or employees in a company, in which case the client hires the company for the design phase. As of June 2020, there are 76 architects registered at the Ministry of National Planning and Infrastructure and 46 licensed engineers. Banks and insurance companies provide the financial services required for the construction phase. In the downstream of the supply chain, client contracts a main contractor to construct the building. The client often hires a consultant and/or a project manager to ensure the project is delivered to an acceptable quality within the budgeted time and cost. The main contractor often subcontracts specialist works to third parties. The subcontractors could be demolishers, plumbers, carpenters, electricians, lift installers, and the network and security subcontractors. As of June 2020, the number of contractors registered at the Ministry of National Planning and Infrastructure are 599.

Material suppliers are parties that import, stock and supply the required building materials in the local market. Almost all building materials are imported. Sometimes raw materials like sand, aluminum, and glass are imported and used in locally manufacture products used in the building. These include concrete, aluminum doors and windows, concrete masonry blocks, and kitchen cabinet systems. The market consists of about five large material suppliers that import in large quantities the basic building materials like steel, cement, aggregates and sand. Few suppliers that focus mainly on importing relatively large quantities of sawn timber operate in the market. Numerous other material suppliers trade in the market but import relatively smaller quantities. Instead of purchasing through a local material supplier, some of the clients directly import material required for the project. Often tiles, sanitary ware and fittings, door and windows, and tile grouts are materials that are imported directly by clients. There are some contractors who had adopted backward integration and operate a separate material supply business that imports and supplies some of the building materials to their projects.

Building materials are imported to Maldives from numerous countries around the world. However, analysis of data of imports of 2019 (Maldives Customs Service, 2019) shows the bulk of building materials are imported into Maldives from five countries (Chart 16). Imports of 2019 that could be identified as building materials were used to estimate the CIF values show in Chart 16. Since the data set available might not be exhaustive and there might be imported building materials that were not included in the published data set, the CIF values presented are only indicative. It is observed from Chart 16 that nearly half of the building material is imported from China. They include various steel products used in the construction industry, roofing materials like roofing sheets, and ceiling systems, tiles, flooring products, sanitary ware, doors and windows. Main imports from United Arab Emirates were coarse and fine aggregates. Timber and sand were the main imports from Malaysia, while air conditioner parts, furniture parts, curtains, and door frames came from the Singapore port. Tiles, sand and masonry blocks were mainly imported from India.

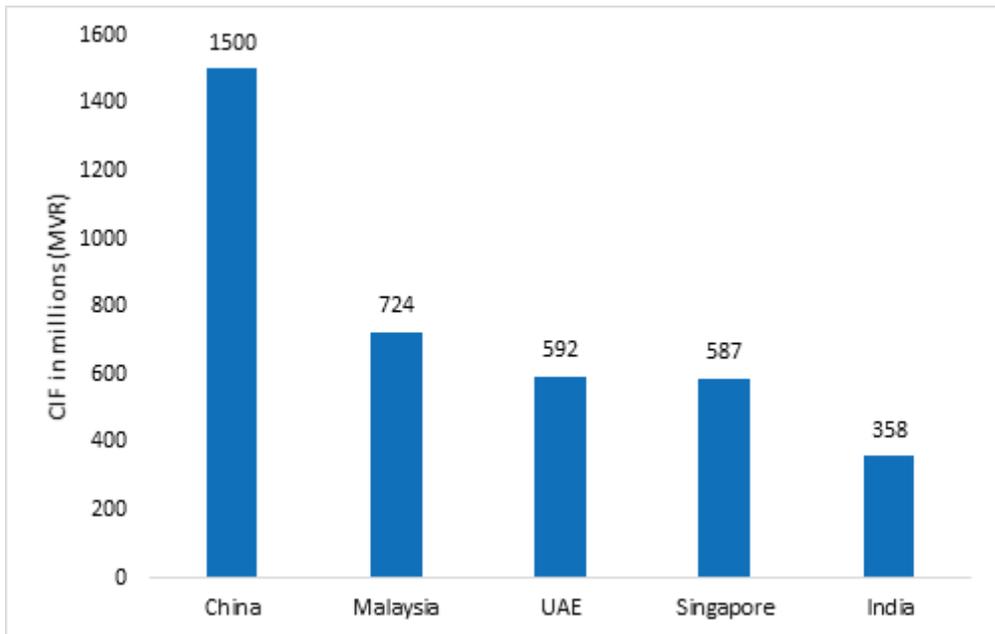


Chart 16: Five main countries from which building materials were imported in the year 2019

The imported building materials are observed to be mainly stocked in the Greater Malé region and distributed by sea for projects throughout Maldives. The materials are locally distributed through channels of cargo and passenger ferries operating weekly between Malé and atolls. Relatively small quantities of different building materials are distributed through this channel. However, hired supply boats are used to transport large quantities and often one or two types of material are transported in a single trip.

4.3.1. Disruption in global supply chain

Since the construction industry of Maldives depends on imports for material supply, any impact on the global supply chain can be reflected in the local supply chain. Hence, the impact on the global supply chain due to COVID-19 is explored in this section.

The disruption in the global supply chain could be affected by constraints on the availability of labour and materials. Due to restrictions imposed by many countries across the globe, the workers had not been able to access the facilities and consequently the production industry had been halted. Staff involved in the upstream and at the interface of upstream and downstream of the supply chain had been able to continue work from home though work could have been slowed. Constraints on the availability of workers can directly affect the availability of materials. A review of the COVID-19 Pandemic Construction Industry Country Reports of the member countries of International Federation of Asian and Western

Pacific Contractors' Associations shows that the supply chain in the construction industry of several member countries had been affected by COVID-19. The member associations that had explicitly reported disruptions in the construction industry supply chains of their respective countries are Builders Association of India, Construction Association of Korea, Federation of Contractors' Associations of Nepal, Overseas Construction Association of Japan and Singapore Contractors Association, Thai Contractors Association, Taiwan General Contractors Association (International Federation of Asian and Western Pacific Contractors' Associations, 2020). Singapore and India are two main countries from which building materials are imported into Maldives.

Goods are moved around the globe using air freight and sea freight. Most of the building materials are transported using sea freight. Hence, the impact of COVID-19 on the global supply chain can be indicated by any change in the global sea freight activities. Container throughput reflects the capacity of a port. Hence, monthly variations in container throughput of the ports across the world can be used to quantify and indicate the potential impact on supply chains due to logistics.

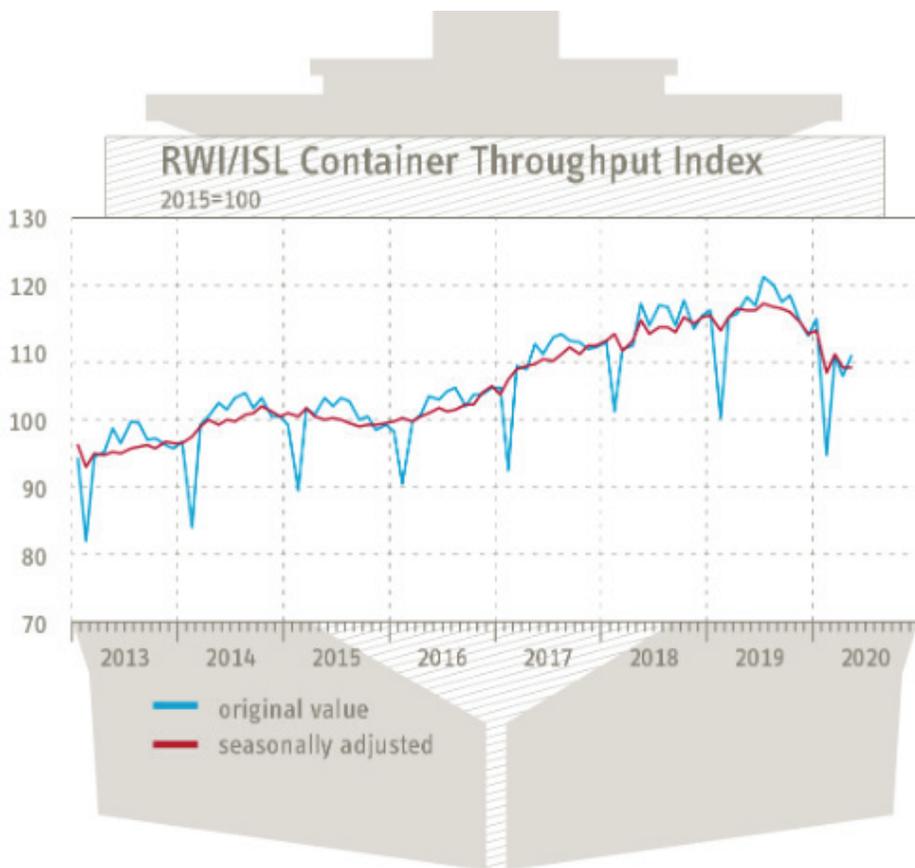


Chart 17: Container Throughput Index from 2013 to May 2020

Source: Institute of Shipping Economics and Logistics, 2020

The RWI/ISL Container Throughput Index is an index based on container throughput. It is published jointly by the Institute of Shipping Economics and Logistics (ISL) and the – Leibniz-Institut für Wirtschaftsforschung (RWI). The index is calculated based on market analysis of more than 80 international ports that account for more than 60 per cent of the world’s shipping activities (Institute of Shipping Economics and Logistics, 2020).

RWI/ISL Container Throughput Index since year 2012 is graphically presented in Chart 17. Slowed activity in global logistics was observed as early as January 2020. One reason is the Chinese New Year celebrations. This was further exacerbated with a sharp drop in February 2020 due to the COVID-19 outbreak and the imposed quarantine reducing the port work force across the globes. Activities in Chinese ports had started to normalise since March and since eight ports in China is considered to be among the 10 largest ports across the world, the normalisation in the Chinese port had caused a slight improvement in the index compared to February. However, container handling in the rest of the ports around the world had remained low and thus a constant decline had been observed since the slight rise in March 2020. The low RWI/ISL Container Throughput Index throughout the first half of year 2020 shows the global freight movement had been affected by the pandemic. The slowed activities in logistics would affect the global supply chain, including that of the construction industry.

4.3.2. Impact on the supply chain of Maldives construction sector

The COVID-19 pandemic has had an impact on the construction industry and its supply chain in several countries. The global impact was explored above. Intuition suggests the global impact would be reflected on the local supply chain as well. The aim of this section is to investigate whether COVID-19 had affected the supply chain of the construction industry in Maldives or whether the supply chain had been resilient to the changes in global logistics. The impact of COVID-19 on the material available locally and also on the availability of the workforce is explored in this section.

The bulk of construction material or the raw material needed to fabricate building elements locally are imported. The main countries from which materials are imported from are shown in Chart 16. The changes in total imports, excluding fuel, of Maldives over the past year was analysed (Chart 17) to capture the impact of COVID-19 on the availability of materials. It is observed that following the global outbreak of COVID-19 there has been a sharp decline of 53% in total imports in Maldives, excluding fuel, in February 2020. However, since March there has been gradual improvements in the total imports. These trends observed in the Maldives is similar to the global case observed in Figure 2. Therefore, the analysis suggests that local supply chain is affected adversely by the changes in the global logistics.

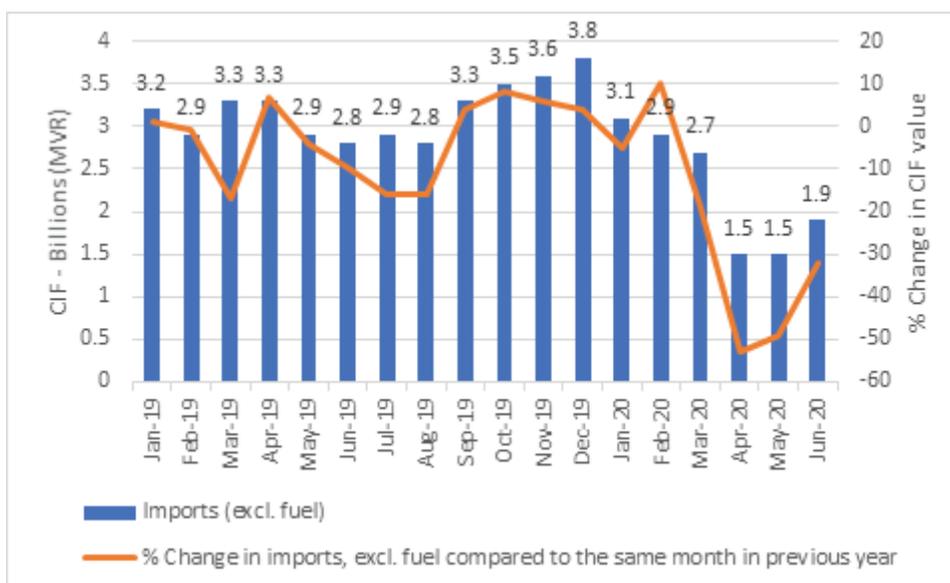


Chart 18: Total imports (exc. fuel), 2019-2020

The imports in Maldives that is observed during the pandemic is mainly related to the medical industry and also imports of essential goods. The imports of construction materials since February 2020 is very limited. This has been verified by interviewing a sales manager of one of the largest suppliers of construction materials in the local market, a sales manager of a relatively small supplier, a project manager and a contractor importing material for their projects. Due to the lockdown, the sales of building material had been very low and local suppliers who had their stocks replenished prior to the outbreak have supplies adequate for the upcoming months. Observations confirm there are adequate supplies of basic building materials like aggregates, sand and timber in the market. However, there seems to be a reduction in some types of furnishings and sanitary ware. Projects that had been anticipating material from other countries had been affected due to delays in the arrival of their purchases.

A state of health emergency in Maldives was declared on 12 March 2020 and a lockdown was imposed from 15 April 2020 to 1 June 2020. During the lockdown there had been a decline in the availability of the workers.

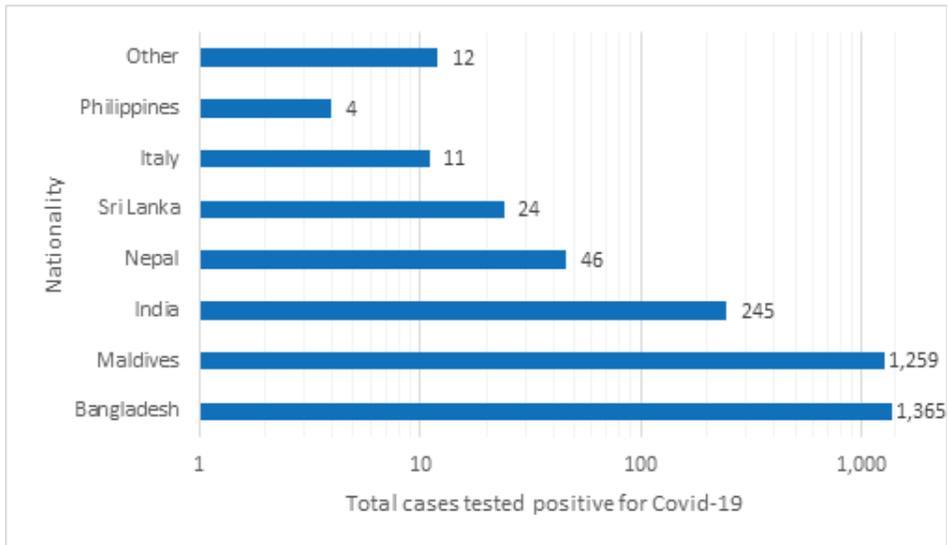


Chart 19: Nationalities tested positive for COVID-19

According to Maldives National Association of Construction Industry (MNACI, 2020), there are about 5000 to 7000 locals and 40,000 to 50,000 expatriates working in the construction industry. This would include the expatriates working directly in construction and also in the distribution channels of the construction supply chain. Most of the expatriates working in construction are from Bangladesh. The restricted access to construction sites during the lockdown had reduced the availability of workers. Additionally, as Chart 19 shows, most of the people tested positive for COVID-19 in Maldives are from Bangladesh (Ministry of Health, 2020) at the time of writing. Since most of the expatriate workforce in the construction industry live in congested staff accommodations, such accommodation quarters were quarantined and/or isolated and kept under close monitoring to prevent a rapid spread in Maldives. Moreover, several workers had either left voluntarily or had been sent back by their employers to their home nations. Such arrangements had decreased the availability of workers in construction and the distribution channels. Similarly, during the lockdown there were restrictions on local transportation. Therefore, the limited boats travelling between the atolls and Greater Malé Region disrupted the supply chain of the construction industry.

Maldives relies on imported building materials. Analysis of Customs Service data shows most of the building materials are imported mainly from China, United Arab Emirates, Singapore, Malaysia and India. However, COVID-19 had drastically reduced the global logistics and imposed measures by various countries had significantly reduced production. The global impact has affected Maldives as well. Local imports had reduced by more than half since the outbreak in February 2020 and imports of building material had been extremely limited. This had reduced the availability of building material to Maldives. However, since the sales had reduced due to the adverse economic conditions, the current stock of basic

building material available in Maldives is adequate for upcoming months. Similar, some of the expatriate workers were tested positive for COVID-19 and many in the construction industry had left the country due to limited projects and this would reduce the availability of the workers in the construction industry. Therefore, COVID-19 has had an adverse impact on the supply chain of the construction industry of Maldives.

4.3.3. Other areas of impact

While not covered elsewhere, inflation is likely to be an issue for the sector. Industry figures expect prices to increase due mainly to an in-effect depreciation of the MVR in the parallel market resulting from foreign exchange shortages. They believe that this would translate into an inflation in project values. Interruptions as discussed above in the supply chain could also contribute to inflation.

According to some industry persons the sector is experiencing a shortage of workers. As government action on illegal workers continue this shortage is likely to exacerbate since not every expatriate worker could be replaced by Maldivian nationals and also due to hesitance on the part of employers to employ Maldivians because of generally recognised issues of their work discipline.

Delays in payments to contractors are also problematic to the sector because companies have to pay taxes when due. Since most companies operate under quite tight cashflows and limited reserves, at times they are subjected to late tax payment fines. While contracts do carry a clause that gives contractor the right to charge fines for late payments, this is seldom practiced for cultural and historical reasons.

5. Government response

The government announced a host of measures taken (or that were to be taken) to support businesses and individuals adversely affected by the pandemic (Najeeb, 2020). At macroeconomic level, these included measures committed to by the Maldives Monetary Authority (MMA), and at fiscal and microeconomic levels, those announced by the Ministry of Finance jointly with the Ministry of Economic Development (Table 1).

Table 1:
COVID-19 economic measures announced by the government

(announced by Ministry of Finance)	
1- the necessary regulatory measures to facilitate a moratorium of 6 months on loan repayments for those impacted by the current situation (customers have to submit their requests to the banks in order to avail themselves of this moratorium).	1- To reduce the government expense by reducing recurrent expenses by 1 billion rufiyaa.
2- reduction of the Minimum Reserve Requirement (MRR) up to 5% to provide liquidity support to banks, as and when needed.	2- Continue PSIP projects as planned.
3- make available a short-term credit facility to financial institutions as and when required.	3- Increase the amount of funds allocated for health sector due to COVID-19.
4- increase in the MMA's foreign exchange intervention and use other available facilities to maintain the exchange rate peg.	4- Arrangement of working capital for businesses through banks.
5- obtain a foreign currency swap facility amounting to US\$150 million under the currency swap agreement signed between the MMA and the Reserve Bank of India (RBI).	5- To subsidise 40 % from electricity bill for the month of April and May.
6- jointly with Ministry of Finance, requested financial assistance from the IMF.	6- To subsidise 30 % from water bill for the month of April and May.
	7- Principal and interest amount of loan repayments to BML to be deferred by 6 months to businesses and people who have been negatively impacted as a direct result of COVID-19.
	8- To reduce the oil price sold from STO.
Source: MMA(b), 19 March 2020	Source: MOF, 20 March 2020

For the construction sector, the prospect of some financial relief announced by the Ministry of Economic Development (MED) and a 6-month moratorium on loan repayments announced by the MMA were seen positively as acknowledged in the MNACI report described above. For example, the 6-month moratorium on loan repayments would be some relief to beneficiaries at a time when there was no cash inflow. On similar rationale, commitment to arrange working capital through banks for businesses would also likely be of needed help.

MNACI, on behalf of their 384-strong membership, however, opined in their assessment report that contractors were unable to avail themselves of the facilities due to pre-requisites, “extensive banking procedures and the hold on banking services due to the lockdown(MNACI, 2020).

6. Conclusion

This study used available literature (including government documents, impact assessment reports, etc.) to make an initial assessment of the nature of impact of COVID-19 on the construction sector.

Based on this initial assessment, it can be concluded that the construction sector has been adversely affected due to the COVID-19 pandemic. The manner in which major impact was spread include the suspension of works on sites for a number of weeks, loss of revenue, interruptions in supply of materials, and loss of employment, shortage of workers, shortage of foreign exchange and the depreciation of the MVR in an ever-present parallel market, among a number of others.

The problematic nature of existing systemic characteristics such as delays in payments and work-related approvals are believed to have contributed to exacerbate the situation.

Economic loss to the sector is expected to be large since works had to be suspended for several weeks during which there was also no revenue to businesses while companies had to incur expenses in the form of salaries, rent, food and other allowances and overheads.

A sector-wide and persistent systemic malaise that companies are subjected to suffer from is delays in payment of invoices. Such delays in turn compel companies to delay payments they themselves owe to others which results in a continuous vicious circle. At the same time, some companies run into difficulties in paying taxes on time and in the event are subjected to fines.

Key areas of impact and major issues that the construction sector goes through are identified in this report and provides a basis for planning new and continuing already introduced policy measures and actions to mitigate the impact of COVID-19 and to provide support and facilitate the sector to rebound from the crisis.

The second phase of this study aims at assessing micro-level impact on contractors and professional services firms in such areas as architecture, civil engineering, etc.

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Annex 1: Timeline

For the purposes of this study, the construction industry is defined as economic activities directed to the creation, renovation, repair or extension of fixed assets in the form of buildings, land improvements of an engineering nature, and other such engineering constructions as roads, bridges, etc.

The broad objective of the study is to assess the impact of COVID-19 pandemic on the construction industry. The specific terms of reference include the assessment of the following:

1. Business impact:
 - a. Projects at different stages;
 - b. Contractual implications;
 - c. Public sector (government, SOEs) projects;
 - d. Private sector projects;
 - e. Project locations;
 - f. New business challenges.

The financial impact on the industry (including free lancers):

Revenues; cost implications due to PPE requirements and COVID-19 safety measures

- a. Costs on human resources, materials and other inputs and compliance costs (e.g. PPE and other safety requirements);
- b. Tax payment;
- c. Financial needs;
- d. Government support;
- e. Challenges.

Employment impact:

Domestic and expatriate employment;

- a. Recruitment challenges;
- b. Challenges on availability of labour for projects.

Operational impact (on-site):

Working hours and conditions;

- a. SOPs;
- b. Mandatory requirements;
- c. Government services;

Supply chain challenges:

Building materials and components

- a. Logistical challenges.

Collective industry-level experiences, responses and challenges;

External factors affecting the industry at the global macro and microeconomic level.

Annex 2: Terms of reference

From viral pneumonia to public health emergency of international concern to global pandemic

- At the end of December 2019, the WHO was informed of cases of a viral pneumonia in Wuhan, China.
- During the first week of January 2020, the WHO was informed that the disease was of unknown cause.
- Subsequently during the second week of January, it was confirmed the disease was caused by a novel coronavirus.
- Between 10-12 January the WHO published a comprehensive package of guidance documents for countries, covering topics related to the management of an outbreak of a new disease.
- During the third week of January, the WHO announced that there was evidence of human-to-human transmission.
- At the end of January, the WHO announced that the disease was a public health emergency of international concern.
- During the first week of February the WHO Director-General asked the UN Secretary-General to activate the UN crisis management policy.
- During the second week of February, the WHO announced that the disease caused by the novel coronavirus would be named COVID-19.
- In the second week of March, the WHO made the assessment that COVID-19 could be characterised as a pandemic.

Source: (World Health Organization, 2020).

Maldives: key events chronologically

- February:
 - o In the Maldives, one of the first adverse measures taken was the suspension of on-arrival visa all nationalities arriving from or transiting through China.
- March:
 - o The first case of COVID-19 was confirmed.
 - o Government announces a state of public health emergency, restricting movements between resorts and inhabited islands, suspending on-campus activities of academic institutions and checking-in at guest houses.
 - o Travel restrictions for passengers embarking from, transiting through or with an applicable travel history to, Iran, South Korea, Italy, Bangladesh, Spain, Germany France, Malaysia and the UK.
 - o Suspension of the operation of all guest houses, city hotels, spas and saloons.
 - o The requirement to close government workplaces, schools and other education service providers.
 - o Suspension of entry of all tourists arriving via safaris, yachts and other passenger vessels.
 - o Mandatory 14-day quarantine of all passengers entering the country.
 - o Suspension of operation of all dine-in services in restaurants and hotels in the Greater Malé region.
 - o Suspension of all tourist excursions across the country.
 - o Requirement on personnel on resorts and safari boats to remain on their facilities for 14 days after the last tourist departed.
 - o Suspension of on-arrival visa for all passengers arriving by air and sea.

- April:
 - o Imposition of a curfew from 5 pm to 8 pm in the Greater Malé region.
 - o Confirmation of the first case of community transmission of COVID-19 in Malé, and the imposition of a 24-hour lockdown in the Greater Malé region, later extended to 14 days.
 - o The first COVID-19 related death, that of a Maldivian woman aged 80 years.
 - o Announcement by the government of suspension of public sector investment programme (PSIP) projects planned for the year but not yet started.
 - o Amendment by the Majlis of parts the Fiscal Responsibility Act to allow the government to increase the amount of overdraft with the Maldives Monetary Authority to MVR 4.4 billion to support state cash flow shortages.
 - o Confirmation of the first community transmission outside Malé announced on the island of Narudhoo in Miladhunmadulu Uthuru (Shawiyani) Atoll.
 - May:
 - o Construction works de-restricted (7 May).
 - June:
 - o Quarantine period for out-bound travel to islands outside Malé region and in-bound travel from abroad to Maldives shortened from 24 to 14 days.
 - o Measures imposed on islands outside Greater Malé region lifted.
 - o Restriction of movement within the Greater Malé region relaxed on 15 June; outing allowed until 11 pm. The lockdown was imposed on 15 April.
 - o Food outlets allowed to open after over three months.
 - o Government releases 13 of the resorts used as quarantine facilities.
 - o MNU-HPA joint survey shows 1 in 10 persons lost all regular income during the COVID-19 lockdown.
 - o MNU-HPA commence a joint survey on infection following the easing of lockdown in Greater Malé area.
 - o Mosques opened for praying; congregation remains restricted.
 - July:
 - o National Emergency Operation Centre dissolved and reduced emergency operations to continue under the Minister for Health.
 - o In-bound travel to Malé from other areas of the country allowed; but out-bound travel from Malé remains restricted.
 - o Schools re-opened after nearly four months.
- Sources: (MED and UNDP, 2020); Mihaaru Daily.



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