

Handling of the Second Wave Threat of the Covid-19 Pandemic in the Construction Sector in Indonesia

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Abstract:- The danger of second wave of the corona virus outbreak found in 2019 (COVID-19) threatens Indonesia. The International Labour Organization (ILO) has warned that without adequate safeguards for returning workers there could be a second wave of the virus. The results of the study have stated that Indonesia is at the level of the country most at risk of experiencing the danger of the Second Wave along with 14 other countries in the world. The construction sector in Indonesia was recorded as one of the business sectors that scored positive performance gains amid slowing economic growth. Indonesia's construction sector contracted as a result of the Large-Scale Social Restrictions (LSSR) to control the spread of COVID-19. The Indonesian government has issued a protocol to prevent the spread of COVID-19 in the construction sector. The implementation of this protocol still raises many obstacles and is seen as not being able to answer the regulatory requirements for working in New Normal conditions in the construction sector. This research tries to present information related to the challenges and opportunities of the construction sector in Indonesia in facing the threat of a COVID-19 pandemic through the in-depth online interview method conducted by researchers of more than 600 construction and Occupational Health and Safety (OH&S) stakeholders in Indonesia. The information and data obtained were analyzed by the SWOT method. The conclusion of this study is that Indonesia needs to make more serious, real, massive, and structured efforts in the construction sector to anticipate the threat of the spread of the second wave of the COVID-19 pandemic.

Keywords:- COVID-19, Construction, Regulation, New Normal, SWOT.

I. INTRODUCTION

The International Labor Organization (ILO) reiterated firmly that without effective protection measures for workers, it could result in workers being threatened again by the COVID-19 pandemic in the second wave (ILO 2020). Some actions such as lockdown, isolation or quarantine need to be done to prevent the spread of this virus (Fosu et. al., 2020). The President of the Republic of Indonesia, Jokowi, called on all parties to remain vigilant and continue to implement the COVID-19 countermeasures protocol in the midst of new normal implementation because COVID-19 has not disappeared from Indonesia and the threat is still

present, conditions are still dynamic, and Jokowi emphasized, not to cause a second wave or the second wave, for that we must increase our high awareness and maintain our health (Asmara, 2020). Potential second wave pandemic COVID-19 dangers threaten Indonesia, the results of studies and research indicate that Indonesia is at the level of the country most at risk (danger zone) in experiencing the danger of a second wave with 14 other countries in the world (Subbaraman et al., 2020).

The data in **Figure 1** below was obtained after Nomura conducted research and analysis in 10 states in the United States and 45 countries with large economic potential in the world that are opening up to entering the new normal era. The data used by Nomura were taken from Google according to community mobility and the many recent COVID-19 cases in the country concerned.

[Figure 1]

The construction sector is one of 11 (eleven) sectors that are excluded and are still able to carry out activities during the period of large-scale social restrictions (LSSR) imposed in several regions in Indonesia. The construction sector plays an important role in the economic growth of a nation, several studies show that the construction sector contributes to the Gross Domestic Product (GDP) in developed and developing countries, including in Indonesia (Indrayana & Amin, 2020). The construction sector is a key component of a country's Gross Domestic Product (GDP) (Mahfuth et al., 2019). In the first quarter of 2020, the construction sector in Indonesia became one of the 5 (five) sectors which were the sources of economic growth in Indonesia (BPS, 2020) this can be seen clearly in **Figure 2** below.

[Figure 2]

Based on data from the Central Statistics Agency (CSA), the construction sector is one of the sectors that absorb the most labor in Indonesia and is the second service sector that employs the most foreign workers, namely 11,727 foreign workers (Movanita, 2018). The amount of labor growth in the construction sector is also quite significant at around 5-7% per year, especially in the last 5 years (Wirahadikusumah et al. 2019). The above conditions allow the creation of opportunities in the construction sector as one of the business fields printing positive performance improvements amid Indonesia's slowing economic growth in

2020 due to the COVID-19 pandemic. Although the Indonesian construction sector is also one of the sectors contracted as a result of the LSSR to control the spread of COVID-19 in Indonesia.

II. REGULATION ON PREVENTION OF SPREAD OF COVID-19 IN THE CONSTRUCTION SECTOR

INDONESIA

The Government of Indonesia through the Instruction of the Minister of Public Works and Public Housing of the Republic of Indonesia ("MPWPH RI") No. 02 / IN / M / 2020 dated 27 March 2020, has issued a protocol for preventing the spread of COVID-19 in construction activities within the Ministry of PWP RI . The Instruction of the Minister of PWP RI is one of the follow-ups on the direction of the President of the Republic of Indonesia on March 15, 2020 through the Minister of Health of the Republic of Indonesia related to mitigation efforts and the determination of COVID-19 as an Extraordinary Event or "EE". The Minister of MPWPH RI's instruction stated that the implementation of construction services could be suspended temporarily due to force majeure, only if:

- 1) it is considered high-risk due to its location being near the epicenter of the outbreak;
- 2) there has been a confirmed case of COVID-19 and/or a worker having the status as patient under surveillance (Pasien Dalam Pengawasan or "PDP") for COVID-19; or
- 3) there has been a regulation from the local or central government suspending the construction work due to force majeure;

However, if the implementation of construction services is deemed important to proceed because of the nature and urgency in dealing with the social and economic impacts of COVID-19, the work can be continued with the provisions:

- 1) it obtains an approval from the MPWPH RI;
- 2) it implements the protocol of COVID-19 prevention with high discipline and submits a periodical report to the COVID-19 Prevention Task Force, and;
- 3) it must suspend its operation if a worker is found to be infected with COVID-19 or become a PDP;

Further, the MPWPH RI Instruction stipulates key policies as follows::

- 1) The Scheme for Protocol on Prevention of COVID-19 in Construction Service Works Based on the MPWPH RI Instruction, the following points are the protocol scheme that must be conducted during construction work:
 - a. the establishment of a COVID-19 Prevention Task Force;
 - b. the identification of potential risks of COVID-19 in the field;
 - c. the provision of health facilities in the field; and
 - d. the implementation of COVID-19 prevention in the field. For ease of reference, below is the protocol mechanism on prevention of COVID-19 outbreak for construction services:

- 2) The Actions to Take for Suspended Contracts
 - a. Establishing the mechanism for work suspension;
 - b. Establishing the mechanism for changes in contract specifications; and
 - c. Compensation in the form of fulfilling (i) the payroll of the construction workers during the suspension period, and (ii) the payment obligation to sub-contractor, producer, and supplier during the suspension period. This requirement is in line with the Minister of Manpower Circular Letter No. M/3/HK.04/III/2020 dated March 17, 2020 on the Employee Protection and Business Sustainability on the Prevention of COVID-19 (the "Circular Letter") which emphasizes that workers/employees are still entitled to receive their payroll during the COVID-19 outbreak situation.

The MPWPH RI Instruction further provides that if a construction contract needs to continue due the work's nature and urgency, the implementation of COVID-19 prevention in the field can be proposed as part of an additional cost for the implementation of Construction Safety Management System (Sistem Manajemen Keselamatan Konstruksi or "SMKK") through an addendum of the construction contract.

- 3) The Protocol on Prevention of COVID-19 for Goods/Services Procurement in Construction Services

For goods/services procurement in construction services, the MOPWH Instruction further provides for ease and expansion access through both online and offline procurement process. This provision is intended to minimize the risk of spreading the virus by taking into account requirements on goods/services procurement in the construction services sector.

[Figure 3]

MALAYSIA

Following the prime minister's announcement on 1 May 2020 regarding the reopening of the economy, the construction industry is permitted to operate with effect from 4 May 2020 (MCO Phase 4). Such operations will be subject to compliance with the standard operating procedure for construction issued by the Ministry of Works (the Construction SOP).

The Construction SOP provides that the following activities are allowed during MCO Phase 4. Any construction work as set out in the Construction Industry Development Board (CIDB) Act 1994 is allowed. Section 2 of the CIDB Act defines 'construction works' as: construction, extension, installation, repair, maintenance, renewal, removal, renovation, alteration, dismantling, or demolition. Any professional services relating to the construction industry are also allowed.

Submission of information to CIDB

For the purpose of operations during MCO Phase 4, companies must submit information relating to their ongoing construction projects to the CIDB via the CIDB's online portal. In addition, companies should prepare and ensure

that documents relating to their ongoing construction projects are made available at the construction site or premises for inspection by the relevant authorities.

Operation hours and workforce capacity

There is no stipulated number of operation hours for the construction industry. Pursuant to the Construction SOP, operations may be conducted on a 24-hours basis. However, any attendance to clients can take place only between 8:00am and 5:30pm. Companies can utilise 100% of their workforce in their operations during MCO Phase 4.

Protocols for operations

Social distancing and maintaining a high level of occupational health and safety are emphasised in the Construction SOP. In connection therewith, the Construction SOP outlines protocols(3) for matters including:

- the management of the workforce;
- the vehicles used to transport workers;
- the movement of workers;
- the transportation of construction materials and supplies;
- providing information to employees on COVID-19 preventive measures and company standard operation procedures;
- the appointment of a coordinator to supervise the COVID-19 preventive measures;
- establishing an emergency response protocol;
- cooperation with the relevant authorities by implementing contact tracing;
- implementation of COVID-19 preventive measures at the entrance of construction sites or premises;
- implementation of COVID-19 preventive measures during the execution of construction works;
- the decontamination of toilets;
- the management of workers' break time;
- returning-from-work reminders and notifications;
- the decontamination of workers' accommodation at construction sites or premises; and
- the maintenance of records of workers' details, cleanliness of construction sites or premises and the company's management of risk relating to COVID-19.

Compliance with laws and other standard operating procedures

Apart from the Construction SOP, companies should observe and comply with:

- the relevant laws, in particular the CIDB Act and the Prevention and Control of Infectious Diseases Act 1988;
- regulations issued by local authorities; and other standard operating procedures issued by the CIDB,(4) the Malaysia National Security Council, the Ministry of Health and other relevant ministries or government agencies.

[Figure 4]

SINGAPORE

The Building and Construction Authority (BCA) is an institution under the Ministry of National Development

Singapore, whose mission is to establish a safe, high-quality, sustainable and friendly development environment. As a leading public body, BCA fights for Singapore to be an environment that is ready to be built in the future. "Built environment" refers to buildings, structures, and infrastructure in the environment that provides arrangements for community activities (BCA 2020).

Since June 2, 2020, Singapore's built environment sector has adopted additional safety measures to reduce the risk of a potential COVID-19 outbreak when the construction sector is reopened in a safe and progressive manner. BCA has worked with Trade Associations and Chambers (TACs) such as SCAL and STAS with the following results below.

To provide clarity about the application process, BCA has created a flow chart that provides a step-by-step guide on how construction companies can submit applications to restart their projects. The link to the flow chart is divided as follows:

- Construction Projects & Supply Works Flowchart: <https://go.gov.sg/bca-construction-restart-chart>
- Landed Housing Projects Flowchart: <https://go.gov.sg/bca-landed-housing-restart-chart>
- Construction Account Works Flowchart: <https://go.gov.sg/bca-caw-restart-chart>
- Renovation Flowchart: <https://go.gov.sg/bca-reno-restart-chart>

BCA has also launched a self-check tool (<https://go.gov.sg/bca-project-readiness>) for companies to assess readiness to restart projects based on the ability of workers to meet the three Criteria for starting safe work at COVID-19

- Safe Worker Accommodation and Transport,
- Safe Labor, and
- Safe Work Location

It is important for companies to comply with these requirements in minimizing the risk of COVID-19. A complete and detailed list of COVID-19 Safe Restart criteria can be found on the BCA website at <https://go.gov.sg/bca-restart-criteria>. After completing the self-assessment, companies that are ready to resume activities will receive an email notification with a link asking them to apply for approval to start work.

PHILLIPINES

Construction Safety Guidelines for the Implementation of All DPWH Infrastructure Projects During the COVID-19 Public Health Crisis is a regulation issued by the DPWH in an effort to anticipate the spread of COVID-19 in the construction sector. DPWH Department order No. 39 as listed in Figure 5 below, is a revision of the order No. 35 as a reference protocol for dealing with the spread of the COVID-19 pandemic in the construction sector in the Philippines (Gov of Phillipines, 2020):

- Areas under the Enhanced Community Quarantine (ECQ) policy are strategic projects, health facility

projects related to COVID-19, natural disaster control emergency projects, clean water supply projects, and wastewater treatment, private projects directly related to food production, agriculture, fisheries, energy, housing, communications, water utilities, manufacturing and business process outsourcing.

- Areas under the Modified Enhanced Community Quarantine (MECQ) policy, which are important projects and other priorities, are also permitted to operate according to strict compliance with the Revised Construction Safety Guidelines.
- Areas under General Community Quarantine (GCQ) and Modified Enhanced Community Quarantine (MECQ) policies.

Before starting work activities again, there are several conditions that need to be met,

- Only people who meet the requirements in Part III of DPWH D.O. No. 39 which can be included in the workforce.
- Construction personnel are required to undergo quarantine for fourteen (14) days prior to placement; as an alternative, employees can undergo an approved COVID-19 test, and be retested as needed.
- The contractor must provide his employees with the necessary welfare facilities, including temporary accommodation, accommodation, and must ensure compliance with minimum health standards such as social distance, proper hygiene, etc.
- The contractor must ensure project compliance with DOLE Department Order No. 13, Series of 1998 ("DOLE DO No. 13"), and the DTI Interim Guidelines and DOLE on the Prevention and Control of the COVID-19 Workplace ("DTI-DOLE Interim Guidelines").
- Disinfection facilities must be provided at the project site and placed in strategic locations there in accordance with DOH and IATF Guidelines.
- Safety Officers must disseminate appropriate information about COVID-19 construction protocols above existing construction safety practices.

DOLE Labor Advisory No. 18, the 2020 series states that in terms of contracting and subcontracting arrangements, the costs of COVID-19 prevention and control measures must be borne by the head of the contractor. Monitoring and enforcement is carried out to:

- For DPWH infrastructure projects.
- For projects implemented by LGU and private construction projects.

For infrastructure projects carried out by other national government agencies, government owned and controlled corporations (GOCC), and other government equipment

Under DPWH D.O. No. 39, those found to have violated the safety guidelines listed in Appendix "1" therein will be subject to punishment, without reducing additional administrative sanctions based on the internal rules of the DPWH and / or to filing criminal actions under applicable law. The list of Philippine government regulations relating

to controlling the spread of COVID-19 in the construction sector is as follows (Tan, 2020) :

- DPWH Department Order No. 39, Series of 2020
- DOLE D.O. No. 13, Series of 1998
- DOH Department Circular No. 2020-0160
- DOH Department Memorandum No. 2020-0220
- DOLE Labor Advisory No. 18, Series of 2020

[Figure 5]

JAPAN

Since May 25, 2020, the Declaration of a State of Emergency has been revoked from all prefectures in Japan (Gov of Japan, 2020), as handling emergency situations are no longer needed. The construction businesses which are involved in social infrastructure, eventually needed by the public—for example; public works. Therefore, they are allowed to keep going, with the minimum number of workers required by the work.

In "Emergency Economic Action for Corona Virus Infection" (National Construction Regulation No. 18 on May 14, 2nd year Reiwa Era) "said that construction of public works will be carried out first and will be supported economically. For construction other than public works, it is permissible to continue in the interests of the construction industry, but still comply with health protocols.

The construction industry is not only responsible for social capital development, but also is at the forefront in disaster defense. This industry has a mission as a guardian of the region by securing the community both during the construction process and the results of the construction itself. From the perspective of maintaining community stability, construction is expected to continue during an emergency.

Construction of public infrastructure continues to run normally but by implementing health protocols to avoid the spread of the COVID-19 virus. For other construction, prior permission from the government is required for safety and health protocol socialization. Construction vocational schools were temporarily suspended, replaced by online learning methods. While the engineer certification program was suspended.

There is no set working hours, but for the amount of worker's capacity adjusted to the minimum amount needed for construction activities to run. The number of workers also pays attention to the application of physical distancing in a closed room which is a minimum distance of 2 meters between workers.

All construction activities are covered by this protocol. The manager must carefully consider the location of the construction site and the elements within it, as well as from the surrounding area, such as cars going in and out

(1) Infection prevention system / regulation

- Corona virus infection prevention measures are led by top management.

- Building a system to accustom protocol changes to the workforce.
- Continue to obey the laws on disease prevention and medical care for patients with infectious diseases, and health safety laws / regulations.
- Collaborate with the government and local construction organizations on COVID-19 prevention.

(2) Ensuring health

- Body temperature checking for employees and workers entering the site (regardless of the main contractor or sub-contractor)
- Do not encourage workers to take vacation leave during a pandemic like this.
- Workers who feel unwell are sent home and are advised to take the COVID-19 test.

(3) Construction site

- It is important to take comprehensive steps to avoid "3-Cs" (closed spaces, crowded places, and close-contact settings).
- Periodic disinfecting and hand washing facilities (ethanol / 2-propanol / 0.05% sodium hypochlorite)
- Provision of disinfectants on door handles and construction tools used by many people.
- Centralized various meetings in the office, it is recommended to use video calls.
- Restricted the use of changing rooms or spaces that are used by many people.
- Use of masks during work and rubber gloves for heavy equipment.
- Physical distancing
- Ventilation and purified water in the room need attention

(4) Response to bid contract

- Review / change the number of contracts required in accordance with the needs given the force majeure like this pandemic, such as temporary suspension, etc.
- Design changes needed for infection prevention measures during bidding.
- In addition to taking appropriate actions such as temporary suspension, business and livelihoods of sub-contractors and skilled workers are ensured that business continuity is not impeded. Likewise with the payment schedule between the constructor and sub-contractor.
- Apart from implementing measures to prevent the spread of corona virus infections, project implementation remains under the jurisdiction of the Ministry of Land, Infrastructure, Transportation and Tourism to secure a secure booking and construction system (Kokuchi Contract No. 6, dated May 7, 2 Reiwa, Technology government No. 29, state administration No. 61, Kokuhoku No. 7)
- Submitting bids for the cost of design changes and schedules, related to infection prevention measures are welcome.
- Simplification of documents at the time of inspection, simplification of inspection using remote communication technology.

NEW ZEALAND

As a result of the lockdown, it is estimated that the construction industry will be hit, losing jobs and financial collapse. However, there are plenty opportunities for construction workers who can quickly adapt to the New Normal situation supported by the New Zealand government (Macqueen 2020). The following construction activities will be continued after COVID-19:

- Existing Projects that have not been completed due to lockdown
- Public infrastructure
- Housing and settlement construction

During COVID-19 Alert level 1 (since 9 June), work can be carried out as usual in all building and construction sectors, with appropriate health and safety measures (Gov of New Zealand, 2020). The worksite still needs to have a COVID-19 control plan to ensure workers follow health protocol steps.

One form of control by providing hygiene requirements such as hand washing soap is placed in an area where contact is likely. There is no set working hours and total work capacity, because physical distancing has been revoked at Alert level 1. All construction activities are included in the New Zealand COVID-19 Alert Level 1 protocol (Gov of New Zealand, 2020),

- The arrival of workers to the site is subjected to a personal health flowchart according to level 1 health protocol
- Installation of site area boundaries to remind workers of the application of health protocols
- A Toolbox Talks (safety briefing) is held prior to the commencement of work.
- Periodic cleaning of the work area.
- COVID-19 Response Plan (if there are workers who show symptoms) must be easily accessed and understood by workers on the site
- Discharge of workers from the site area must follow the protocol, which is to dispose of all disposable personal protective equipment (PPE) to a safe disposal site.
- Management applies the Health Mental Protocol to assist workers in dealing with changing situations due to COVID-19

AUSTRALIA

In Australia these guidelines were made by SWA (Safety Work Australia) which is an Australian government legal entity that was established in 2008 to develop national policies related to Occupational Safety and Health and workers' compensation. SWA is an inclusive tripartite body that works in partnership with governments, employers and employees to encourage the development of national policies on WHS and workers compensation issues (Gov of Australia 2020).

This guideline covers the work:

- Construction of buildings and other structures
- Additions, changes, reconstruction and installation
- Maintenance and repair of buildings and other structures

- Demolition, destruction or cleaning of buildings and other structures
- Blasting and drilling tests
- Landfill, leveling, earth removal and excavation, as well
- Soil drainage and other land preparation.

The content in this guideline is further divided for workers, employers and small businesses as follows:

- About COVID-19; Obligations of the OH&S Law; Worker Rights; Consultation
- Risk assessment; Vulnerable workers; Emergency Response Plan; COVID-19 at work
- Health Monitor; Hygiene; Cleaning; Personal Protective Equipment (PPE)
- Mask; Gloves; Mental Health; Violence at work; Family and household violence
- Work from home; Training; Workers compensation; Resources and Support
- Case Study

UNITED KINGDOM

In the United Kingdom these guidelines were developed by the Department for Business, Energy and Industrial Strategy (BEIS) with input from companies, trade unions, industry and administrative bodies in consultation with Public Health England (PHE) and the Executive Health, Safety, and Environment (HSE). This guideline must be considered in conjunction with the local community health and safety requirements and laws (Gov of United Kingdom, 2020).

The content of these guidelines consists of:

- Think about risks
- Who should be able to work
- Maintain social distance for workers
- Management of customers, visitors and contractors
- Clean the workplace
- Personal Protective Equipment (PPE) and Face Cover
- Workforce Management
- In and out of goods
- Other further guidelines

In this guideline, workers are divided into two categories, workers who are very clinically vulnerable and clinically vulnerable. Highly clinically susceptible individuals are strongly advised not to work outside the home during the peak of the pandemic and can only return to work when infection rates in the community are down or low. Clinically vulnerable individuals are at higher risk because serious illnesses are asked to be more careful in running social distances and must be helped to work from home. If clinically susceptible individuals cannot work from home, they must be offered the safest choice of roles available on site, enabling them to maintain social distance guidelines.

In labor management, it is recommended that workers be broken down into work groups so that direct contact can be reduced, identifying where workers have a lot of sharing things directly. Minimize the pool of workers in the crowd

by dividing work time, time at the entrance and exit and maintaining social distance during shift handover. Workers must assist with test and trace services by keeping temporary records of staff shifting patterns for 21 days so as to help if there are requests for such data if needed. This can help divide the plague into several clusters.

In this guideline, there are several mitigations that can be applied if maintaining social distance is difficult to apply. Increase the frequency of washing hands and cleaning the work surface, making the time for activities involved as short as possible, using screens or barriers to separate people from one another, using back-to-back or side-to-side patterns at work (rather than face to face) whenever possible, and reduce the number of people interacting using the 'permanent or partnering team' system (so that everyone only works with a few others).

List of guidelines related to COVID-19 in the United Kingdom, namely:

- COVID-19: what you need to do
- Support for businesses and employers during coronavirus (COVID-19)
- General guidance for employees during coronavirus (COVID-19)
- COVID-19: HSE guidance on gloves
- COVID-19: HSE guidance on mask fittings
- COVID-19: Department of Health & Social Care guidance on masks

III. POLICY REVIEW RELATED TO THE CONDITION OF THE COVID-19 PANDEMIC IN THE CONSTRUCTION SECTOR IN INDONESIA

The construction sector, especially in the implementation of construction projects, is believed to be one of the sectors that felt the most impact from the COVID-19 pandemic. There have been various extreme changes in terms of physical implementation, financing, material supply chain, labor and construction work equipment to potentially erode the entire profit margin in the implementation of related projects.

The Government of the Republic of Indonesia through various ministries, agencies, institutions, provincial and district and city government levels have simultaneously called for the implementation of "New Normal" in all sectors of community activities, including the implementation of projects in the construction sector.

Related to the above, then in this study a preliminary survey (May 2020) was conducted regarding the influence of the Government of the Republic of Indonesia's policy regarding the COVID-19 pandemic towards the implementation of construction projects in Indonesia. This preliminary survey is important to see the initial response of the construction service community in general and as well as the direct actors of construction activities specifically regarding the influence of the Republic of Indonesia's government policy regarding the COVID-19 pandemic

towards the implementation of construction projects in Indonesia. The survey (May 2020) was conducted by distributing questionnaires online to 600 selected correspondents and obtained 551 valid and complete responses from stakeholders in the construction and Occupational Health and Safety (OH&S) sector in Indonesia.

Some interesting conclusions from the initial survey are as described below,

- More than 70% of 551 correspondents have undergraduate education (S1) and undergraduate (S2) degrees, the remaining 30% varies their educational background.
- Of the 551 correspondents divided into two broad categories related to the source of the construction project budget that is being carried out or recently completed, namely 53.5% of the government budget source and 46.5% of the non-government budget source.
- Of the 551 correspondents divided into three broad categories related to the type of correspondent's work, namely 29.2% of private construction employees, 24.5% of construction state-owned enterprise (SOE) employees, 18.7% of academics and the rest are varied (state civil apparatus, consultants etc).

[Figure 6]

In **Figure 6**, the above shows that government policies, the majority of which were correspondents (39.6%), made the main reference in the implementation of their construction projects by the relevant ministerial regulations. As an example of construction activities under the Ministry of PWPB RI, it refers to the Instruction of the Minister of Public Works and Public Housing of the Republic of Indonesia (MPWPB RI) No. 02 / IN / M / 2020 concerning protocol for preventing the spread of COVID-19 in construction activities within the Ministry of PWPB RI. While the construction activities under the Ministry of Transportation in the Indonesian railroad construction section refer to Circular No. KA.008 / A.98 / DJKA / 20 Regarding the Follow-up Protocol for Prevention of Corona Virus Disease 2019 (Covid-19) in the implementation of railroad development.

[Figure 7]

In **Figure 7**, above, it is shown that the Instruction of the Minister of Public Works and Public Housing of the Republic of Indonesia (MPWPB RI) No. 02 / IN / M / 2020 concerning protocol for preventing the spread of COVID-19 in construction activities within the Ministry of PWPB RI is still lacking in socialization so that only a portion (20.7%) of 551 correspondents understand the contents of the Minister's instructions, while the rest are limited to the extent never read and never even read (don't know).

[Figure 8]

In **Figure 8**, it is shown that the Instruction of the Minister of Public Works and Public Housing of the

Republic of Indonesia (MPWPB RI) No. 02 / IN / M / 2020 on protocols for preventing the spread of COVID-19 in construction activities within the Ministry of PWPB RI is still lacking in detail in providing a clear explanation related to the portion of responsibilities and rights of contractors / providers of goods and services in relation to the impact of the COVID-19 pandemic so only a portion (50.3%) of 551 correspondents believed that in the Instruction of the Minister of Public Works and Public Housing of the Republic of Indonesia (MPWPB RI) No. 02 / IN / M / 2020 clearly written portion of the responsibilities and rights of contractors / suppliers of goods and services in relation to the impact of the COVID-19 pandemic.

[Figure 9]

In **Figure 9** above, it is shown that the Instruction of the Minister of Public Works and Public Housing of the Republic of Indonesia (MPWPB RI) No. 02 / IN / M / 2020 regarding the protocol for preventing the spread of COVID-19 in construction activities within the Ministry of PWPB RI is still lacking in detail in providing a clear explanation related to the technical patterns of the implementation of post-pandemic COVID-19 construction project activities so that only a portion (50.6%) of 551 correspondents who believe that in the Instruction of the Minister of Public Works and Public Housing of the Republic of Indonesia (MPWPB RI) No. 02 / IN / M / 2020 has clearly written technical patterns for the implementation of COVID-19 post pandemic construction activities.

In **Figure 10** below shows the data that 52.8% of 551 correspondents expect that the government should issue a policy regarding the separation of responsibilities and rights related to costs to be borne by employers and providers of goods and services in the implementation of construction projects during the COVID-19 pandemic. Whereas 34.3% of the 551 correspondents chose that the government should issue a protocol policy for the implementation of construction project activities after COVID-19 and 12.9% of the 551 correspondents preferred the protocol policy for stopping or delaying construction project implementation activities.

[Figure 10]

IV. EFFECTS OF THE COVID-19 PANDEMIC ON THE CONSTRUCTION SECTOR IN INDONESIA

The implementation of New Normal in the construction sector in Indonesia is believed to have caused several consequences in the implementation of construction project activities. where it has given rise to some uniqueness, scope and new limits in the implementation of construction work, as is the case,

- The implementation of construction projects tends to be reproduced by labor-intensive systems
- Occurrence of obstruction or disruption to the smooth mobility of labor, equipment and material needs of construction projects

- Implementation of difficult construction work methods as a result of applying physical distancing
- High risk COVID-19 infection (large number of jobs, workers gathered in the area of beds, canteens and some work spots in the field)
- Low digital culture in the construction sector
- Remote area (project implementation in remote areas)
- 24 hours of working schedule

The emergence of several uniqueness, scope and new limitations as one of the consequences of the implementation of New Normal in the COVID-19 pandemic conditions has also been done deepening in this study through a preliminary survey (May 2020) regarding the influence of the Government of the Republic of Indonesia's policy regarding the COVID-19 construction project in Indonesia. With some conclusions drawn in some pie charts below.

In **Figure 11** below the data shows that there are 3 (three) most significant impacts related to the existence of a COVID-19 pandemic on the implementation of a construction project. The three things are the difficulty of mobilizing labor, equipment and material needs of the construction sector (33.8%), reduced speed of construction project implementation (31.9%), and rising OH&S costs Project implementation (26%).

[Figure 11]

Related to the results in Figure 11 above where it has been stated that the increase in OH&S costs (implementation of the project) is a significant impact that directly affects the financing of construction projects, for that in the initial survey (May 2020) in this study deepening it as illustrated in **Figure 12** and **Figure 13** below.

[Figure 12]

[Figure 13]

Comparing the survey results illustrated in **Figure 12** and **Figure 13** above, it is clearly illustrated that there was a large shift in the OH&S budget in construction projects. The tendency of the increase in OH&S costs can be seen in the implementation of construction projects during the COVID-19 Pandemic period. The OH&S budget in the range of 2.5% - 4% (of the total value of the implementation of related projects) increased by 10.5% from the condition before the COVID-19 pandemic by 14% and during the COVID-19 pandemic period to 24, 5%.

With the various challenges and limitations that occur in the implementation of construction projects during the New Normal period, does it cause pessimistic perceptions in the Indonesian construction service community or will optimism continue to grow in the condition of the COVID-19 pandemic?

V. RESEARCH METHODS

One of the objectives of this research is to get an overview of what are the strengths, weaknesses, opportunities and threats of the construction sector in the face of the threat of the second wave of COVID-19 pandemic in Indonesia. SWOT analysis is a technique used to help an organization identify strengths, weaknesses, opportunities, and threats related to the development of its organization, SWOT analysis has also been used by many practitioners and researchers, and it is one of the most dominant strategic planning tools (Frimpong et al., 2020).

(Glaister & Falshaw, 1999) found that SWOT analysis as one of the highest level technical analysis tools used in strategic planning in large organizations in the world. As well, (Panagiotou, 2003), argued that the SWOT analysis has been used even more than any other technical analysis tool. Therefore, (Valentin 2001) has also recommended the use of SWOT analysis as a means to find understanding solutions in many business sectors both commercial and environmentally oriented. (Helms & Nixon, 2010), have going through 141 academic research articles which are using SWOT analysis method, to discovered that the use of SWOT analysis has gone beyond not only the reach of an organization on a company scale—but also has been on a particular sector scale in one country. In this study, the SWOT analysis is used to determine the factors that can be used to anticipate the threat of a second wave of COVID-19 pandemic in the construction sector in Indonesia. Previous research has also used SWOT analysis in the context of the construction sector or industry, for example, at the organizational level (Zhao & Shen, 2008) and (Lu et al., 2009) using SWOT analysis to assess the competitiveness of foreign construction companies in China and Chinese international construction companies. At the industry level, (Durdyev et.al., 2016) conduct a SWOT analysis for the construction industry in Cambodia.

To further strengthen the results of the SWOT analysis in this study, a follow-up survey (June 2020) was conducted by distributing questionnaires online to 300 selected correspondents and 274 valid and complete responses were obtained from stakeholders in the construction and OH&S sectors in Indonesia.

Some interesting conclusions from this follow-up survey are as described below,

- More than 70% of 274 correspondents have undergraduate education (S1) and undergraduate (S2) degrees, the rest have varied educational backgrounds..
- Of the 274 correspondents divided into three broad categories related to the type of correspondent's work, namely 39.1% of the academic community, private construction employees 28.8%, state civil servants 14.6%, employees of state-owned enterprises (SOE) construction 11.3% and the rest varies (management of Professional Associations, Business Entity Associations and so on).

In **Figure 14** below the data shows that there are 3 (three) main links where the construction sector is seen as one of the main sectors in Indonesia that is highly correlated with the current COVID-19 pandemic situation. The first is the construction sector as a provider of employment (large scale) (38%), the construction sector as the implementing sector providing infrastructure for the COVID-19 Pandemic countermeasure (36.5%) and the construction sector as the attracting sector of national economic recovery (21.9%).

[Figure 14]

[Figure 15]

In **Figure 15** above the data shows that there are 3 (three) biggest challenges for the construction industry as a result of the COVID-19 pandemic namely, Limited mobility of labor, equipment and materials (44.9%), Drastic decline in market potential and profit margins (32,5%) and the broken supply chain supporting the construction industry in Indonesia (17.2%).

[Figure 16]

In **Figure 16** above the data shows that there is consistency of opinion from correspondents where the results of two surveys with a distance of approximately 1 (one) month still place the issue of the rights and obligations of the parties in a contract remain one of the toughest and most significant issues in contract matters During the COVID-19 pandemic, which amounted to 20.4%, while the problem of delay in the implementation of the contract occupies the largest percentage of 56.2%, then the issue of OH&S and environment in the contract issue was 16.4% and the issue of contract claims or contract disputes by 7%.

In **Figure 17** below, the correspondent's opinion is reaffirmed regarding the main policy that the government must prepare for the construction sector so that it can immediately rise up in the New Normal period, considering that the construction sector is one of the dominant sectors as the driving force of the national economy.

[Figure 17]

VI. SWOT ANALYSIS

Strengths of the Construction Sector in the face of the Second Wave Pandemic COVID-19 Threat in Indonesia

From the results of a follow-up survey (June 2020) by distributing questionnaires online to 300 selected correspondents and obtained 274 valid and complete responses from stakeholders in the construction and OH&S sector in Indonesia, 3 (three) conclusions of the construction sector's strengths in dealing with the threat of a COVID-19 pandemic second wave in Indonesia as follows:

- 1) The construction sector in Indonesia has the ability to absorb a large potential workforce and is able to work as "New Normal".

- 2) The construction sector in Indonesia is capable of being implemented and integrated with the "online" digital construction system at many stages of its work, especially health installations that support COVID-19 control (Covid-19 Special Hospital on Galang Island; COVID-19 Special Hospital in Lamongan; Hospital Emergency COVID-19, Wisma Atlit Kemayoran Hospital, Gajah Mada University (UGM) Academy Hospital, etc.
- 3) The construction sector in Indonesia is the main driving factor of the national economy, hence the availability of funds for the implementation of construction sector activities is guaranteed by the state.

Construction Sector Weaknesses in the face of the Second Wave Pandemic COVID-19 Threat in Indonesia

3 (Three) conclusions about the weaknesses of the construction sector in facing the threat of the second wave of COVID-19 pandemic in Indonesia are as follows:

- 1) The mastery of "high & digital" technology in the construction sector is mostly limited to construction SOEs and large private national construction companies, while the majority of construction sector companies in Indonesia are dominated by medium and small qualifications.
- 2) The limited number of OH&S experts who are truly skilable in the construction industry is not just "having a OH&S certificate". OH&S management is still weak so that COVID-19 can become epidemic in construction projects.
- 3) Very dependent on the supply chain (high dependency). In order to stretch together, business capital (bank loans) is needed for business entities to be able to drive supply chain businesses. The construction industry is a type of industry that involves various stakeholders who support the provision of infrastructure in Indonesia today.

Construction Sector Opportunities in the face of the Second Wave Pandemic COVID-19 Threat in Indonesia

3 (three) conclusions from the construction sector opportunities in facing the threat of the second wave of COVID-19 pandemic in Indonesia are as follows:

- 1) Improved Management of Construction Services Business Entity (CSBE), especially on adjusting innovations in the use of information and data technologies that affect work implementation methods as well as the efficiency and effectiveness of the implementation of construction services in Indonesia.
- 2) The construction sector is a sector that is excluded from large-scale social restrictions (LSSR) on the condition that it applies the New Normal protocol
- 3) The high expectations of the community for better and more complete infrastructure services, and one of them is addressed by the Government by initiating the construction of public facilities, especially those related to COVID-19.

Threats of the Construction Sector in the face of the Second Wave Pandemic COVID-19 Threat in Indonesia

3 (three) conclusions from construction sector threats in the face of the second wave of COVID-19 pandemic threats in Indonesia are as follows:

- 1) Foreign construction workforce.
- 2) Decreasing the effectiveness of activities when a pandemic can be a factor of capital weakness later when it must start reactivating with New Normal, because the construction sector is one sector that requires high costs in building infrastructure, then the stunted availability of owner, employer or government funds can be a threat to the stopping of construction projects.
- 3) There are often delays in the execution of work and contract changes, especially related to costs and time.

VII. SWOT MATRIX

The following four strategies are used in the analysis using the SWOT Matrix:

- The S/O strategy is to take advantage of the strengths for the opportunities that have been identified.
- The W/O strategy to overcome weaknesses by utilizing opportunities. However, additional resources may be needed to take advantage of opportunities.
- The S/T strategy to enable the construction sector to face threats with the strengths of the construction sector.
- The W/T strategy to eliminate or overcome weaknesses while simultaneously avoiding threats.

Strategies for Improvement

Through the implementation of the SWOT analysis, a clear picture of the internal and external environment of the construction sector in Indonesia has emerged. The matrix has revealed strategies that can be used to take advantage of strengths, minimize weaknesses, exploit opportunities, and neutralize the threat of the second wave of the COVID-19 pandemic in Indonesia. Below, discuss the proposed strategic recommendations to improve the performance of the construction sector in Indonesia in the face of the Second Wave of the COVID-19 Pandemic Threat in Indonesia.

The S / O strategy is to take advantage of the strengths for the opportunities that have been identified.

- With the construction sector being one of the sectors excluded from the PSBB with the condition that it continues to implement the New Normal protocol, it can be suggested to the government to take advantage of this momentum by opening the broadest labor-intensive activities through the construction sector to be able to absorb large numbers of potential workers and sparked a national economic revival. (S1 & O2).
- The government is advised to conduct socialization, training and subsidies related to the implementation of inexpensive digital and information technology for the construction sector, especially for small and medium qualification construction companies. (S2 & O1).
- The government is advised to add stimuli that facilitate the movement and progress of implementing infrastructure development related to controlling the

impact of COVID-19 and triggering and spurring a national economic revival. (S3 & O3).

The W / O strategy to overcome weaknesses by utilizing opportunities. However, additional resources may be needed to take advantage of opportunities.

- The government is advised to conduct socialization, training and subsidies related to the implementation of inexpensive digital and information technology for the construction sector, especially for small and medium qualification construction companies (W1 & O1).
- The government is advised to conduct socialization, training and subsidies related to OH&S digitalization technology for construction online, especially for small and medium qualification construction companies (W2 & O2).
- The government is advised if possible to form a special bank that serves the needs of the construction sector and its supply chain series more specifically, by optimizing one of the Bank's State Owned Enterprises (SOE) to become a construction sector specialist bank with various policies that facilitate the activities and needs of the sector construction. (W3 & O3).

The S / T strategy is to enable the construction sector to deal with threats with the strengths of the construction sector.

- The government is advised to empower the maximum and broadest potential of Indonesia's potential workforce, especially in the construction sector in order to revive the national economy and reduce dependence on foreign workers (T1 & S1).
- The government is advised to add stimulus in funding the construction sector which is recognized by the construction sector as one of the leading sectors in reviving the national economy (T2 & S3).
- The government is advised to optimize the integration of "online" digital construction systems at many stages of its work so that it can be minimized by delays in the execution of work and changes in contracts, especially related to costs and time. (T3 & S2)

The W/T strategies to eliminate or overcome weaknesses and avoid threats.

It is recommended that the Government come up with a comprehensive regulation for the construction sector in which the regulation is able to answer the very possible threats to the construction sector in Indonesia due to the threat of the second wave of the COVID-19 pandemic. The regulation must contain at least,

- New Normal implementation protocol in the construction sector which includes clear separation of rights and obligations for users of goods and services as well as providers of goods and services (especially related to the addition of OH&S costs due to COVID-19).
- Stimulus-related stimulus of construction project financing and guarantee of ease of licensing in relation to the mobilization of labor, equipment and material needs of the construction sector.

- Massive socialization techniques, structured online training and subsidies related to the implementation of inexpensive digital and information technology for the construction sector, especially for small and medium-sized construction companies.

Finally, it was emphasized that the construction sector needed a consensus with all stakeholders involved in terms of the executive, legislative, judiciary as well as the role of academics as well as the upstream and other sectors of the construction sector in Indonesia in jointly anticipating and facing the potential threat of the second wave of the COVID-19 pandemic . But what needs to be avoided is trying to politicize construction projects where it will increase risk, reduce market confidence and make it difficult for the construction sector to be efficient. It is recommended that the government and the construction sector actors must engage with each other according to their respective portions in planning better to ensure the best solution for joint problems in the construction sector in Indonesia.

VIII. CONCLUSION

Using a SWOT analysis has clearly revealed a picture of the internal and external environment of the construction sector in Indonesia, especially in terms of the readiness of the construction sector in facing the potential threat of the second wave of the COVID-19 pandemic. The strength of the construction sector in Indonesia internally is its ability to absorb large numbers of potential workforce, and also its ability to be able to remain active under the New Normal COVID-19 pandemic through the protocol established by the Indonesian government. And in terms of regulatory support and stimuli for the construction sector in Indonesia, it is very possible considering the construction sector in Indonesia is one of the main driving sectors of the national economy, the availability of funds for the implementation of

its activities is always guaranteed availability and priority by the state.

However, the construction sector in Indonesia is also notorious for its weaknesses including poor OH&S performance, time and cost overrun, low technology usage dominance, poor work performance, and highly dependent on supply chains from other industrial sectors.

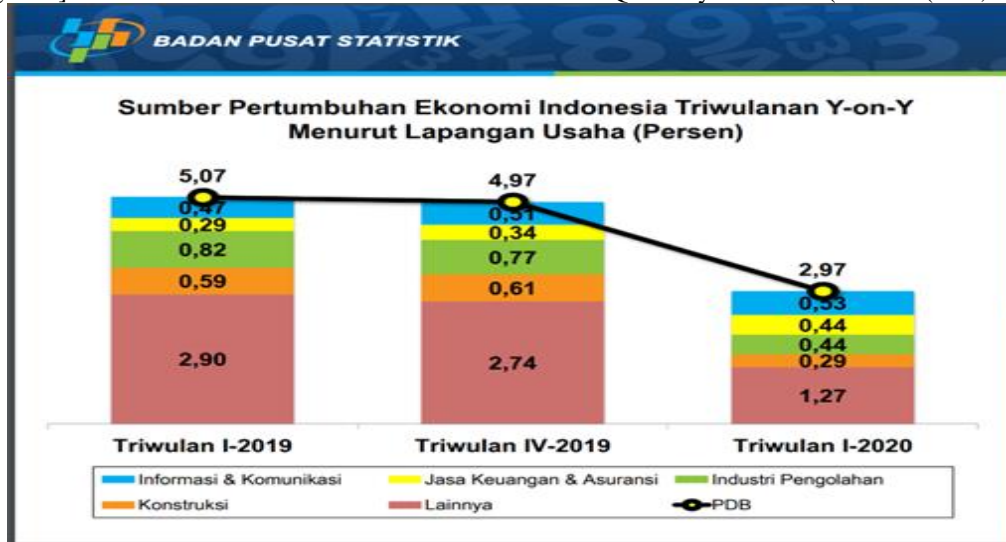
The construction sector as a sector that is excluded from the Large-Scale Social Restrictions (LSSR) on the condition that it applies the New Normal protocol and the high expectations of the community for infrastructure services will become external opportunities that are able to present unique opportunities for the construction sector in Indonesia to survive the COVID-19 pandemic.

This study proposes using four strategies based on Strengths / Opportunities, Weaknesses / Opportunities, Strengths / Threats and Weaknesses / Threats, and makes recommendations to improve the performance of the construction sector in Indonesia in the face of the threat of the second wave of the COVID-19 pandemic. This strategic recommendation is the need for the Indonesian government to make more serious, real, massive and structured efforts, especially in the construction sector to anticipate the threat of the spread of the second wave of the COVID-19 pandemic, through regulations that contain New Normal implementation protocols in the construction sector, which contain clear separation of rights and obligations for users of goods and services as well as suppliers of goods and services, stimulus-related financing for construction projects as well as guarantees of ease of licensing in relation to the mobilization of labor, equipment and material needs of the construction sector, and the implementation of massive socialization, structured online training and related subsidies implementation of low-cost information and digital technology in the construction sector, especially for small and medium-sized construction companies.

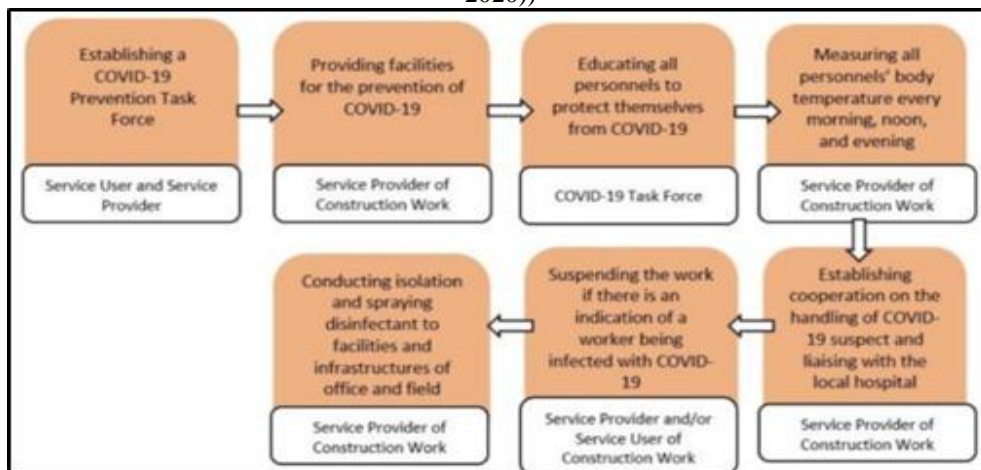
[Figure 1] Measuring the risk of the second wave of Covid-19 (Source: (Subbaraman et al., 2020))



[Figure 2] Sector Sources of Economic Growth in Indonesia Quarterly.1 In 2020 (Source: (BPS, 2020))



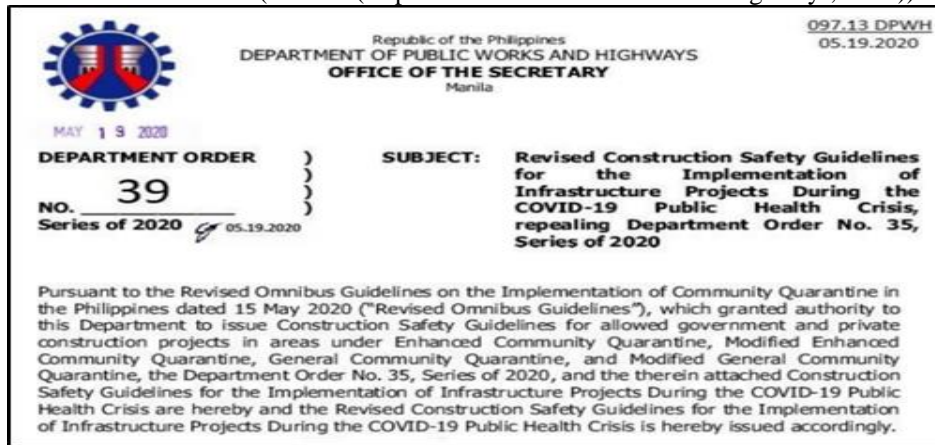
[Figure 3] Scheme of COVID-19 Prevention Protocol in Providing Construction Services in Indonesia (Source: (Hadimuljono, 2020))



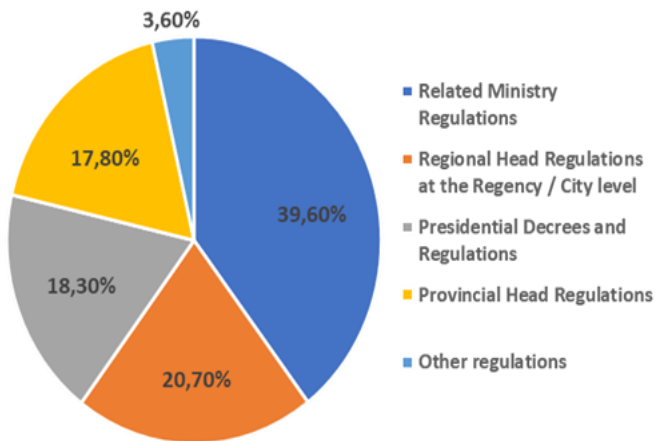
[Figure 4] Malaysia Construction SOP Section (Source: Ministry of Works Malaysia & Construction Industry Development Board, 2020)



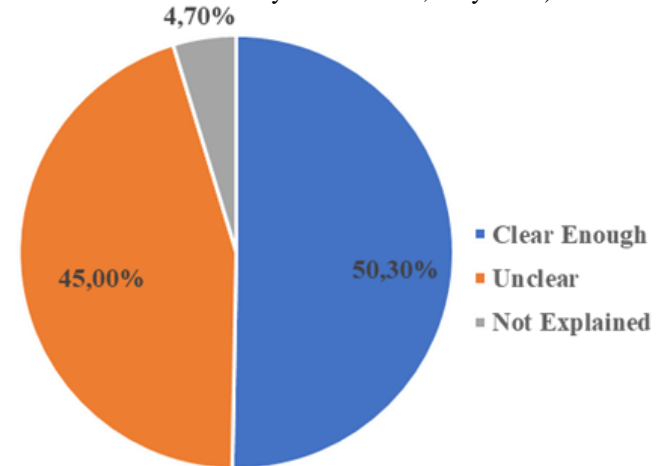
[Figure 5] Construction Safety Guidelines for the Implementation of All DPWH Infrastructure Projects During the COVID-19 Public Health Crisis (Source: (Department of Public Works and Highways, 2020))



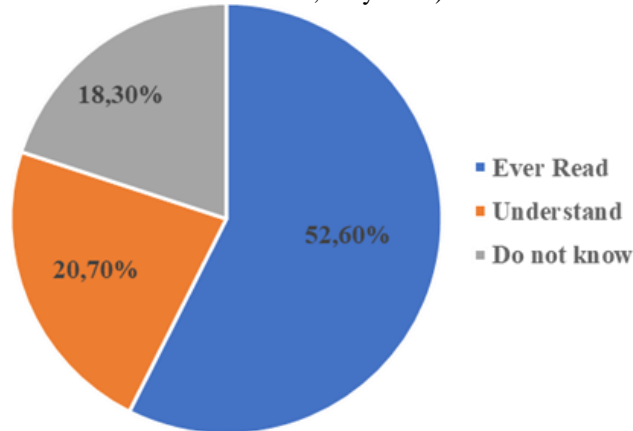
[Figure 6] Government policies which become the main reference for the implementation of construction projects in Indonesia (Source: OH&S Stakeholders and Construction Limited Survey in Indonesia, May 2020)



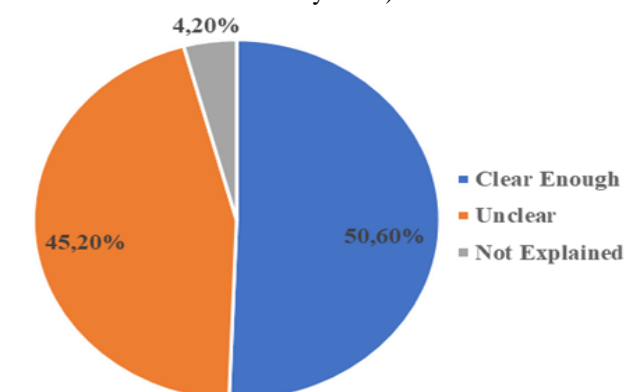
[Figure 8] Correspondent's opinion related to the Instruction of the Minister of PWPB RI No. 02 / IN / M / 2020 whether it has provided a clear explanation related to the portion of the responsibilities and rights of contractors / suppliers of goods and services in relation to the impact of the COVID-19 pandemic (Source: OH&S Stakeholders and Construction Limited Survey in Indonesia, May 2020)



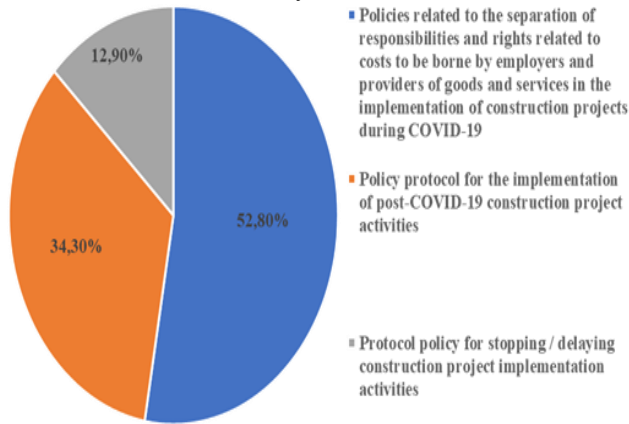
[Figure 7] Correspondent's opinion related to the Instruction of the Minister of PWPB RI No. 02 / IN / M / 2020 concerning COVID-19 spread prevention protocol (Source: OH&S Stakeholders and Construction Limited Survey in Indonesia, May 2020)



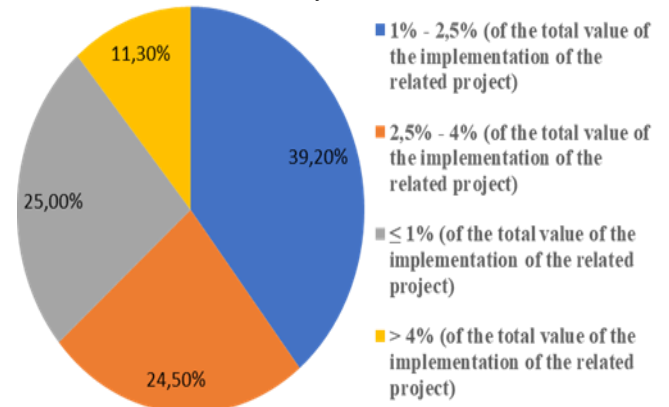
[Figure 9] Correspondent's opinion related to the Instruction of the Minister of PWPB RI No. 02 / IN / M / 2020 whether it has provided a clear explanation related to the technical pattern of the implementation of the construction activities of the post-pandemic COVID-19 (Source: OH&S Stakeholders and Construction Limited Survey in Indonesia, May 2020)



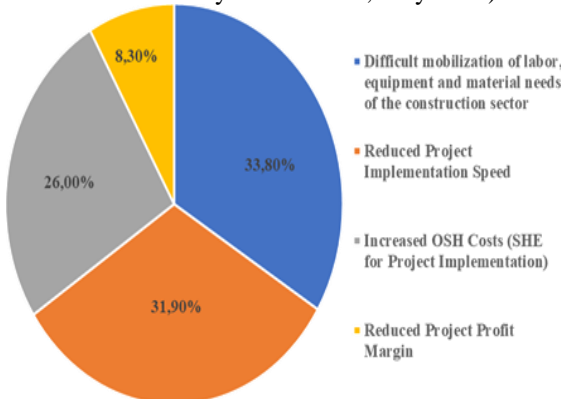
[Figure 10] The Correspondent's opinion regarding what government policies are most important at the moment should be issued by the government regarding the process of implementing a construction project (Source: OH&S Stakeholders and Construction Limited Survey in Indonesia, May 2020)



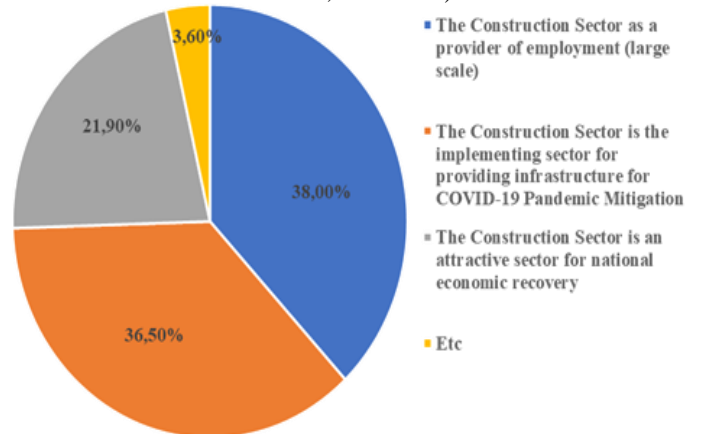
[Figure 13] Correspondent's opinion related to the average value of OH&S cost allocation on construction projects during the COVID-19 Pandemic period (Source: OH&S Stakeholders and Construction Limited Survey in Indonesia, May 2020)



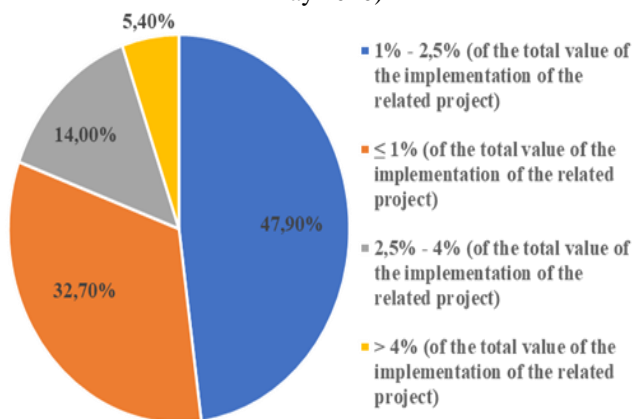
[Figure 11] Correspondent's opinion regarding the most significant impact related to the presence of a COVID-19 pandemic on the Implementation of a Construction Project (Source: OH&S Stakeholders and Construction Limited Survey in Indonesia, May 2020)



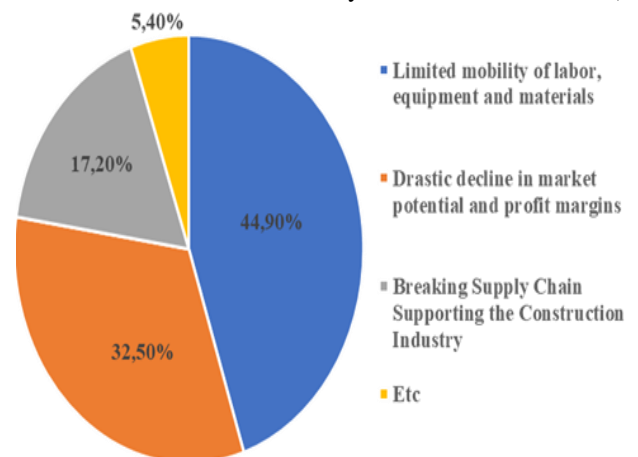
[Figure 14] Correspondent's opinion about the relevance of the Construction sector as one sector that is highly correlated with the COVID-19 pandemic situation (Source: OH&S Stakeholders and Construction Limited Survey in Indonesia, Juni 2020)



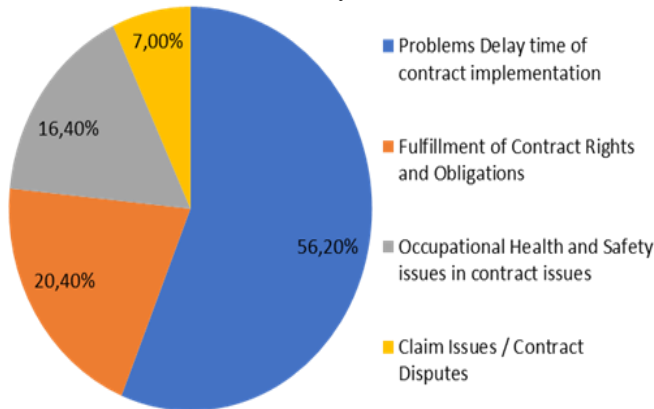
[Figure 12] Correspondent's opinion related to the average value of OH&S cost allocation in construction projects before the COVID-19 Pandemic period (Source: OH&S Stakeholders and Construction Limited Survey in Indonesia, May 2020)



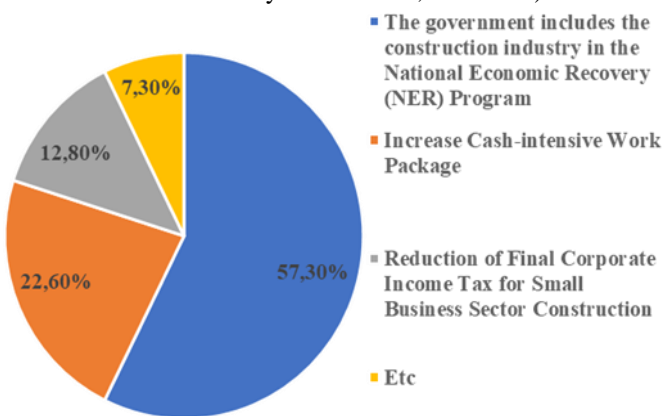
[Figure 15] Correspondent's opinion about the biggest challenges for the construction industry as a result of the COVID-19 pandemic (Source: OH&S Stakeholders and Construction Limited Survey in Indonesia, Juni 2020)



[Figure 16] The Correspondent's opinion on the impact of the most severe contractual problems as a result of the COVID-19 pandemic (Source: OH&S Stakeholders and Construction Limited Survey in Indonesia, Juni 2020)



[Figure 17] The Correspondent's opinion about the main policy that the government must prepare for the construction sector to be able to rise immediately during the New Normal period (Source: OH&S Stakeholders and Construction Limited Survey in Indonesia, Juni 2020)



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