HEAVY MACHINERIES: AN OVERVIEW

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COMMENT | Heavy machinery management systems and competent workers are essential to ensure the safety of all parties. Work involving the use of heavy machinery requires skill and knowledge in terms of handling and maintenance in order for it to operate safely. Workers handling the machinery must also be competent and skilled in various aspects of the safety and technical issues of the machinery used. They need to attend courses offered by NIOSH or other relevant parties to increase their competency in heavy machinery use. However, there is always a risk involved and requires monitoring, standards, safe work practices, good training modules and proper maintenance to prevent accidents.

Workplace accidents are not only harmful but also have a huge impact on daily productivity depending on the type of work at stake. For example, in places where complex heavy machinery is operating, it can be very dangerous in the event of an accident. Accidents occur due to many factors, such as workers' compensation factors, machinery technical problems, health factors, fatigue and so on. Understanding why accidents occur is the first step in preventing and reducing heavy machinery-related accidents.

Machinery is part of the production system, and it is designed in a variety of functions and functions to help reduce human consumption and improve production efficiency of a product. However, without proper supervision and safety measures and competencies, the operation or use of such machinery may result in injury or death in the workplace.

According to literature study, heavy machinery refers to heavy machinery/ machines specifically designed to assist in heavy work such as construction, plantation, manufacturing and so on. Each of this heavy machinery has its own function and use in a particular industry, be it construction, manufacturing, forestry or agriculture.

Heavy machinery can be divided into two types: mobile or stationary and the mobile machinery is categorized into two types of wheel and chain. Most types of moving machinery are used in the field such as construction, agriculture, plantation, mining and others, while stationary machinery is widely used in the manufacturing, disposal and others sectors.

Based on literature and data from SOCSO, there are six major industries in which there are high accidents including transportation and storage, construction, forestry, mining and quarrying, agriculture and plantation, and manufacturing. Most of these industries require large numbers of workers and involve the use of machines or machinery that can contribute to accidents and deaths either by workers or the general public.

Based on statistics, the manufacturing, agriculture and plantation, and mining and quarrying industries accounted for the highest number of accidents for 2014 to 2017. There were 9793 non-classified accident cases in 2017 due to lack of data from victims/ workers or employers involved. In addition, complete accident data involving heavy machinery was also not reported, and this made the study data difficult.

The construction industry also involves the use of heavy machinery in the process of accelerating construction work. In total, for the last four years (2014-2017), crashes in the construction industry have involved 95 cranes, 172 tractor cases, 204 cases of machinery and equipment, and ground work machines, excavators and 16 other cases. According to this data, heavy machinery accident cases dropped from 2014 to 2016, but increased by 66% in 2017. This is due to the growth of the construction industry in Malaysia and the increase in the number of workers. According to SOCSO's annual report, the number of workers continued to increase each year by 6.6 million in 2014, 6.35 million in 2015, 6.59 million in 2016 and 6.8 million in 2017. This indicates that the six industries (i.e. transportation and storage, construction, forestry, mining and quarrying, agriculture and plantation) continue to grow with increasing economic, technological and labor needs.

Increasing cases of accidents in heavy industries such as construction, plantation, manufacturing and agriculture will continue if safety and regulatory measures relating to the use and operation of heavy machinery are ignored. Workers' skills also need to be emphasized for the safe handling of machinery and in accordance with procedures set by machinery manufacturers and supervisors in the workplace to ensure the safety of workers and the public.

More effective handling of heavy machinery is important to be consulted by the relevant personnel such as project managers, supervisors and operators / drivers of heavy machinery for the purpose of improving existing practices. Competent firms providing machinery rental services should also play a role in ensuring that all machinery is maintained on schedule and any component repairs or replacements must meet specified specifications. Therefore, all parties involved in the use or operation of heavy machinery must take responsibility to ensure that the machinery used is safe and registered with the authorities. Accident prevention measures should be planned and implemented accordingly to reduce accidents involving heavy machinery.
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This article is the result of author reviews based on his experiences and observations from related sources.