



Fig. 4 Transportation system impacts in inefficient Military Logistics Support

As shown in Figure 4, the transportation system directly impacts inefficient military logistics support. Transportation systems can be classified in drivers, vehicles, and roads. It should be noted that the components under this view reflect the value contribution of driving fatigues, vehicle performance, and road condition.

Drivers' perception changes in many different conditions based on their psychological state. Long hours of driving can cause sleep deprivation and fatigue. Moreover, driving on monotonous highways and curves on mountainous roads requires speed and continuous land position control changes. These driving conditions require focusing on the eyes to watch, the hand to handle the vehicle, and the mind to stay alert. In this situation, the mind has to handle a more mental workload. Military drivers are more likely to drive to meet the work schedule and workload. Driving long distances for long hours will make the drivers exhausted and leave them with fatigue. Many people continue driving even though they feel fatigued, which may cause an accident.

Old vehicles are expensive to maintain, caused by charges for maintenance. Along with fuel inefficiency in fuel consumption, the absence of proper modern passenger safety, and the production of high levels of toxic exhaust emissions. At the same time, it could not meet the user or driver's expectations of deteriorating performance and inability to continue the task of transporting goods. The vehicles would finally stop on the roadside, thus delaying the delivery tasks as scheduled. This will, therefore, reduce the operating hours of the vehicle. The value of beyond economical repair vehicles usually decreases from 80% to 20%. Old vehicles are not only deteriorating their roadworthiness but also the safety element. Vehicle in the military transportation system is responsible for extended activities, including the movement of troops and materials. These activities involve service demand, identifying a destination, and calculating distance and duration. However, those activities will be hindered from accomplishing within the required time beyond economical repair vehicles. When driving this type of vehicle, the degradation issue becomes a serious matter and requires a solution to prevent the whole military logistics support system from jeopardizing.

The vulnerability of road networks created risks and threats to road users. Most of the roads in rural areas have poor road

designs, conditions, and lack of maintenance which cause unreliability of the network. Complement with long-distance location and failure to provide a good network will affect travel time, accidents, and road users' safety issues. In addition, long travel distances and frequent stops have caused stress to the drivers and the vehicles, and other parts such as shock absorbers and tires.

Hence, military logistics operation is crucial and acts as a lifeline, especially during war. The military's transport system depends on the drivers, vehicles, and roads to respond to logistics requirements. Failure of these three elements will impact the efficiency of military logistics support where supplies could not be delivered at the right time.

IV. CONCLUSIONS

The findings from this study showed that military logistics support's efficiency depends on several factors. These include the distances between the army camps and naval bases located remotely from the central depot. Furthermore, given this remote distance, the probability of accidents during the task of delivering and receiving supplies, which are performed by the military personnel, would also increase. Moreover, with poor road conditions, the routes to the mountainous central depot route became difficult for the drivers and had serious effects on access to the locations. This predicament was enhanced by the vehicles' low performance caused by the age factor, causing them to break down and ultimately delay the military logistics support's activities. Therefore, fulfilling the logistics requirement for those who urgently needed supplies with this condition was not an option. In particular, operating the trucks with maximum loads required the military personnel to drive cautiously, which caused tiredness, stress, and fatigue.

Nevertheless, the army camps and naval base personnel had no choice but to acquire their supplies remotely from the central depot. Thus, given these points, it is the right time to replace military vehicles since most vehicles are already beyond their economic life. Additionally, even though the vehicle maintenance was performed, it was found that the maintenance activities could not solve or increase the vehicle's performance, which is deteriorating over time. Therefore, this study is crucial for the military to revise the asset replacement policy to enhance and support efficient logistics, which becomes critical during a conflict. Nevertheless, to reduce the transportation cost and enhance road mobility as well as accessibility, the state government should consider new initiatives to improve, construct, and upgrade the roads in Sabah, besides reducing the rate of serious injuries and fatalities caused by road transport accidents, which should be of the highest priority.

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