

**DECLARATION**

**INVESTIGATE THE OCCUPATIONAL VULNERABILITY  
OF COMMUNITY AND STUDY THE SUITABILITY OF  
VULNERABILITY MODEL FOR COVID-19 PANDEMIC-  
FOCUSING WESTERN PROVINCE OF SRI LANKA**

By

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## ABSTRACT

Sri Lanka being the island nation not sharing any land border with any continents. The only means of transferring the causative organism for the illness is through the legitimate migrating ports. Western Province facilitating major Airport and harbor is much vulnerable to infected with such foreign origin contiguous disease. In the literature survey it is discussed the previous pandemic in the world history from 1918 Spanish flu and their consequences to the world. The unprecedented emerging new microbiological hazards has endurance to imbalance the global order for years till suitable vaccination invent, test and vaccinated the people. In the context of progression of pandemic in globalized world all countries are isolate and break the many sectors including supply chain. On Covid -19 pandemic spread through the Western Province of Sri Lanka the initial successes on containment virus transmission were faded by the subsequent clusters of infected people. These clusters were based on occupations. Hence, primary objectives of the research to identify the vulnerability factors that trigger the hazardous nature of the Covid-19 in the occupational environment in the Western Province and identify the most suitable vulnerability model that can be applied to the Sri Lanka. Secondary data analysis carried out to investigate influencing spatial factors. Spatial relationship was quantitatively analyzed with the formulation Western Province map of infected cases during the year 2020. Empirical survey was carried out to investigate the characteristics of these Occupational based clusters.

It has been determined that metrological factors do not significantly affect transmissibility. However, the rate of infection remains relatively low in standardized and developed residential areas, while it is notably higher in underdeveloped and non-standardized residential areas, despite both types of areas having similar population densities. Vulnerability to infection in occupational environments increases significantly due to prolonged periods spent at the workplace and limited structural separation. Nevertheless, the infection rate in occupational environments is not directly proportional to the level of exposure. This discrepancy can be attributed to the availability of safety equipment, personal sanitary materials for employees, tech-savvy and the practical know-how of preventive measures.

In conclusion, a comprehensive social approach is necessary to effectively mitigate these hazards. Furthermore, occupations should transition to a CBF model, with only essential employees present, in order to minimize the impact of such hazards. According to the findings, it is recommended to modify the PAR vulnerability model, altering from the developmental PAR-Bio model to more effectively prepare for future disasters.

## KEYWORDS

PAR model, Occupational Vulnerability; Risk; Hazard; Transmissibility