

## KEY SUCCESS FACTORS IN MANAGING COVID-19 OUTBREAK: ROLE OF THE DEFENCE FORCES OF SRI LANKA

Dr. Thesara V.P. Jayawardane

### ABSTRACT

*COVID-19 has caused a worldwide pandemic due to severe acute respiratory syndrome. Sri Lankan government urged the general public to practice correct hygiene methods to safeguard from this disease. Defence Forces of Sri Lanka is playing many roles in the fight against COVID-19 and this research is an overview of the contribution they have made towards battling the COVID-19 successfully. The purpose of this research is to identify the effectiveness of the measures taken by the Sri Lankan government and the Defence forces to stop COVID-19 spreading, which will provide an example for other countries to follow during similar outbreaks. This research is a qualitative study mainly undertaken with content analysis of the information extracted from secondary data. Selected conversations were also conducted with key personnel of the Defence forces to obtain an in depth understanding and to clarify the accuracy of the results. The key contributions made by the Ministry of Defence along with the Sri Lanka Army (Army), Sri Lanka Navy (Navy) and Sri Lanka Air Force (SLAF) were identified and recommendations are made which includes methods to adopt when dealing with COVID-19 in the future.*

*Keywords:* Defence Forces, Coronavirus Disease, COVID-19, Sri Lanka

### BACKGROUND

World Health Organization (WHO) confirmed a novel coronavirus on the 12th January 2020, as the cause of a respiratory illness in Wuhan, China. Even though the fatality ratio for coronavirus disease 2019 (COVID-19) is comparatively lower than SARS, the transmission is greater. Sri Lanka reported its first confirmed patient due to this disease on 27/01/2020, when a Chinese woman was admitted to the National Institute of Infectious Diseases (NIID). A total of over 3000 confirmed cases have been reported in Sri Lanka by September 2020, with 12 deaths. Quarantine Law in Sri Lanka is governed by the Quarantine and Prevention of Disease Ordinance No 3 of 1897. Sri Lankan media Newsfirst ([www.newsfirst.lk](http://www.newsfirst.lk) 16/04/2020) reported that "Sri Lanka has been named as 16th high risk country prone to virus pandemic" and Kohona (2020) and Opatha (2020) mentioned that Sri Lanka has been ranked 9th best country in the world for its successful immediate response on tackling the virus.

Sri Lankan President directed the authorities to implement proper QCs and ordered relevant authorities to provide necessary essential services to the general public via internet ([www.dailynews.lk](http://www.dailynews.lk), 20/03/2020). The government issued a circular stating that the special task force has been established to effectively and efficiently regulate and conduct the mechanism of distribution of essential commodities among public (Opatha, 2020). After two months of island wide curfew, in May Sri Lankan government ended the 52-day lockdown style curfew. This allowed people to return to workplace while maintaining social distancing but the public gatherings and celebrations were not allowed. 5/08/2020 was a significant day for Sri Lanka where the 2020 Sri Lankan parliamentary election was held in spite of COVID-19 with a voter turnout of nearly 75% (Lucas, 2020). Wearing face masks and using hand sanitizers were made compulsory at the polling stations and social distancing was maintained throughout.

### RESEARCH PROBLEM

COVID-19 has been challenging the world in many unexpected ways, and people need to adjust their lifestyles accordingly in order to move on to the future with the pandemic. Throughout the pandemic and currently as of now, Tri Force members of the Defence Forces of Sri Lanka work hard to battle against COVID-19 that has affected over 3000 people and claimed twelve lives ([hpb.health.gov.lk](http://hpb.health.gov.lk), 2020).

A credible and reliable evidence-based, impartial assessment about the contribution made by the Defence forces has not been carried out. By identifying their priceless effort, we not only can pay due credit and respect, but the findings will contribute towards recognising the important role a country's tri forces can play when facing a pandemic or a similar disease situation. It will provide guidance for the future for Sri Lanka or for any other country which may encounter such conditions. Elder (2010) emphasised how "military service was able to serve as a positive turning point, providing valued resources as well as new reference and support groups in times of a crisis including during pandemics".

Bruce Aylward, adviser of WHO-China Joint Mission on COVID-19, praised China's efforts as probably the most ambitious, agile and aggressive disease containment effort in history. The strong military power of the Chinese government was considered a reason for this success" (Zhong, 2020).

Studies have been conducted on the efforts against COVID-19 by many countries in the world but the contribution of the Sri Lankan government, especially the support extended by the Defence forces has not been studied in depth. The role of the Sri Lankan Defence forces in COVID-19-disaster management needs extensive research and in-depth study which is why the author realised there is a research gap that needs to be filled.

Therefore, the study derived the following research problem:

- What are the strategic initiations made by the Defence Forces of Sri Lanka in controlling the Covid-19 outbreak?

In order to address the stated research problem, the study has derived the following key objectives.

## OBJECTIVES

- To analyse the effects created by COVID-19 on Sri Lanka.
- To identify the key contributions made by the Defence Forces of Sri Lanka during the battle against COVID-19 pandemic attack.
- To provide direction for Sri Lankans with ways to continue life amidst COVID-19.

## LITERATURE REVIEW

National Operation Center for Prevention of COVID-19 Outbreak (NOCPKO) was initiated by the President HE Gotabaya Rajapaksa and, the Army Commander Lt.Gen.Shavendra Silva was appointed as the head of this centre. This can be seen as the initial instance where the military was officially brought into Sri Lanka's COVID-19 battle. Sri Lanka Police (SLP) and Army joined hands "to track down those reportedly in hiding, and evading quarantine" (www.sundaytimes.lk,15/03/2020). The Acting Inspector General of Police had to request the Criminal Investigation Department to take strict action against people who circulate malicious and false information about public servants involved in essential services.

Dr. R. Surenthirakumaran of University of Jaffna (www.ft.lk,28/04/2020) raised a few questions: "We have to deal with COVID-19 for some time. How will government address the job-sector? Can we provide hand-washing facilities in public places? Can we continue physical distancing?" This research will attempt to provide answers or recommendations for such concerns as well. The Ministry of Defence(MOD) and the Health Ministry(HM) joined hands and took all necessary precautions to prevent spreading of COVID-19 through travellers who are arriving from COVID-19 infected- countries among the 20 million of country's population. The first quarantine facility was set up in the Diyatalawa military hospital. Poonani and Kandakadu that function under the Army were declared as QCs to keep these arrivals for 14-days. Military Spokesman Brig. Chandana Wickramasinghe stated that "those, who were coming from countries listed as 'risky' areas of COVID-19 will be kept under the quarantine process at two centres in the Eastern province for 14-days. Sri Lankans have a right to return to their motherland, but they need to be responsible to protect those already living in the country. So must willingly undergo the quarantine process" (www.defence.lk,2020).

Police spokesman SP Jaliya Senaratne spoke of Quarantine and Prevention of Diseases Ordinance and explained the legality of the quarantine process. "The process followed by the military is completely lawful and noncompliance to the stipulated routine would be leading to an imprisonment up to 6 months and could be fined up-to Rs.10,000" he said (www.defence.lk,2020).

Defence Secretary Maj.Gen.(Retd) Kamal Gunaratne confidently stated that the SL government will ensure the protection of country's 21.4 million people from COVID-19. He reiterated that "the military, which was the first respondents in a disaster situation, had come forward to support to mitigate spreading the virus further. The military is also tasked to analyse past records, items used, places that the infected people had visited and people whom they had associated. When a suspected coronavirus infected individual is identified, we direct them to a hospital such as the IDH and take all necessary measures to provide medical treatment. After admitting the patient to the hospital as we will find those who associated with the patients and, if we fail to trace their whereabouts, we will get the assistance of the intelligence agencies to track them to put them on self-quarantine process in their own houses" (www.defence.lk,14/03/2020).

The below figure is a snap shot of the possible way for an infected individual to transmit the COVID-19 virus to a susceptible person.

Defence Secretary stated that "From manning roadblocks, erecting quarantine facilities to tracking and tracing potential coronavirus infected patients and from mass disinfection initiatives to distributing household goods and provisions to needy communities in the country, Army displayed capabilities. The intelligence agencies are providing exceptional results by promptly tracking and tracing individuals evading quarantine and identifying potential coronavirus carriers, who have associated with confirmed patients" (www.defence.lk,2020)

Chief of Defence Staff and Commander of the Army, Lt.Gen. Shavendra Silva stated that, throughout the COVID-19 battle, visionary and guiding support was continuously extended by the President, Prime Minister and the government. He fondly reiterated the contribution of the Health Minister, Director General of Health Services and Medical Specialists. He also discussed the Army's strategic interaction with other stakeholders, quick operational aspects with new innovations, use and coordination of intelligence, adaptability of security force personnel for civil coordination work and communicative strategies ('Big Focus', www.deranatv.lk,29/07/2020).

'Nothing is Impossible,' is a motto constantly phrased by Lt.Gen. Shavendra Silva who stated that "Sri Lanka being a small nation maintains the Armed Forces through the tax-payers' money and therefore we need to protect this nation from whatever the national emergency it is faced with, not only in times of security alone as we have repeatedly proved". He further discussed the importance

of way forward strategy 2020-2025 and explained the process of transforming the Army to be a “professionally-competent and fully-pledged organization which can deal with any eventualities in future” (‘Big Focus’, www.deranatv.lk,29/07/2020).

Defence Secretary Maj.Gen.(Retd) Kamal Gunaratne mentioned that around the world, Sri Lanka is identified as the nation that deployed the intelligence service successfully to mitigate the spread of COVID-19. He added that at a time when all the developed countries face COVID-19 helplessly, Sri Lanka was facing it fearlessly to mitigate the spread of the virus. He further stated that “Sri Lanka can be a role model for other countries on how the deadly virus could be curbed effectively” (www.defence.lk,31/07/2020).

## **CONCEPTUAL FRAMEWORK**

“A conceptual framework is the researcher’s idea on how the research problem will have to be explored” (Afibary, 2015). The conceptual framework guides the researcher in the specific direction by which the study will have to proceed. The conceptual framework will specify the variables that will have to be explored in the research. To create a conceptual framework which will guide this research, the literature was studied and the information obtained so far in previous studies were identified. A gap in terms of knowledge in the area of COVID-19 and the contribution made by the Defence forces was identified. Specific questions which need answers and problems that need solutions were also selected. As a result, the researcher created a conceptual framework to serve as a guide in this research.

With the aid of the above conceptual framework, the contributions made by the Defence Forces in the battle against COVID-19 can be identified.

This frame work shall emphasise the fact that the Contribution from the Defence forces acts as a Moderating variable that affects the direction and strength of the relation between Public Health Surveillance and Public Health Action.

When the contribution from the Defence forces is strong and constant, that results in a strong Health system and when the contribution is minimal or poor, the result is negative on the health system.

As a theoretical implication leadership characteristic demonstrated by the Defence forces can be recognised. The transformational leadership theory attracts many discussions and it is applicable on every sector including in the military (Bradley & Charbonneau, 2004). The transformational leaders, especially in the military change their subordinates to the better making them efficient in their missions. When applied to this conceptual framework, transformational leadership can be seen as how the commanding officers inspire, motivate, influence and simulate the subordinates to achieve the common goal (Warilow, 2012) of the best interest of the country’s health and security.

## **METHODOLOGY**

This research is a narrative review of the literature where the response and contribution made by the Sri Lankan Government and Defence forces during the COVID-19 outbreak is analysed. Epidemic preparedness and Sri Lanka’s response capacity, case identification and surveillance, healthcare facilities, and medical team preparation according to WHO frameworks, regulations, and guidelines were identified.

Therefore, the methodology used for the purpose of this research study primarily involved with information obtaining from secondary data which was extracted and analysed in order to increase the validity and credibility of the findings. A number of face to face discussions and telephone conversations were conducted with selected personnel with superior authority in the Defence forces in order to ensure the secondary data obtained is accurate and credible.

“A lot of secondary data are being collected and archived by researchers all over the world for research that are becoming more widespread” (Andrews et.al, 2012). The major advantages of analysis of secondary data are the cost effectiveness and convenience it provides. Secondary data refers to data that is collected by someone other than the researcher.

For this research, data available on the internet was extracted from government and Defence forces websites. Data was also collected from some non-government organisations where the information is authentic and trustworthy. Data from public libraries, universities and academic institutes, commercial information sources such as newspapers, journals, magazines, radio and TV stations were also utilised. These sources provided first-hand information on statistics of COVID-19 in Sri Lanka, contributions made by the Defence forces, impact COVID-19 has on the economy, and opinions of public.

In the second stage, five (05) higher rank officials representing the tri forces and the MOD were chosen for one-to-one discussions. They were chosen as per the ranks and the responsibilities they hold as spokespersons for the respective institutes. These selected representatives had the fullest knowledge of the details of the incidents and information that was obtained from the secondary data and had the authority to clarify if the data was accurate. They were interviewed face to face at a location of their convenience and some were interviewed over the telephone. They elaborated on the various findings obtained from the secondary data and provided a wider understanding to the researcher. All these representatives have first-hand experienced the COVID-19 battle Sri Lanka went through and are the front liners and the strategic decision makers during this successful journey, and thus shared their experiences with the researcher fondly.

This qualitative study was conducted as a content analysis, so the collected data can be organized and realistic conclusions can be formed. “The researcher must choose whether the analysis should be of a broad surface structure or of a deep structure” (Berg,

2001). In a review of the literature, different opinions and interpretation in content analysis are presented. The quality and trustworthiness of the analysis must always be maintained (Burnard, 1991).

**Trustworthiness**

“Trustworthiness or rigor of a study refers to the degree of confidence in data, interpretation, and methods used to ensure the quality of a study” (Polit & Beck, 2014). The secondary data were all obtained by the government official websites which include the Defence.lk and respective web sites of the tri forces. These websites contain reliable and accurate information only. The researcher managed to ensure the trustworthiness of the information during the personal discussions and phone conversations held with respective tri forces members of authority.

**Reflexivity**

According to Dowling (2006), “reflexivity is the research process where the researcher reflects upon various theoretical assumptions and perspectives”. During the research, one may find that their-own ambitions, personality, morals, beliefs, experiences and, social identities have shaped the research. Reay (2007) states that “reflexivity is about giving as full and honest an account of the research process as possible, in particular explicating the position of the researcher in relation to the research”. This research emphasises the importance in conveying ideas from those who have direct experiences of battling against COVID-19 to those who are outside. Many times, during the data collection the researcher realised the impact the Defence forces has created in protecting the country from this deadly virus while putting their own safety at stake. Researcher has all but positive thoughts to support their efforts which will indeed create a change if analysed correctly by policymakers.

**KEY FINDINGS**

**Statistics**

To fulfil the first objective of the research and to analyse the effects created by COVID-19 on Sri Lanka, secondary data was analysed. The important statistics of Sri Lanka during the COVID-19 pandemic is identified as of 24th of August 2020 and summarised below.

As seen in figure.3 the fatality rate of COVID-19 patients is 0.4% with a recorded 95% recovery rate. Main reason for these excellent results can be interpreted as the discipline conducted at the QCs and the efficient and effective service extended by the Defence forces.



Figure 3: An Overview of the COVID-19 statistics of Sri Lanka on 24/08/2020 (Coronatracker.com, 2020)

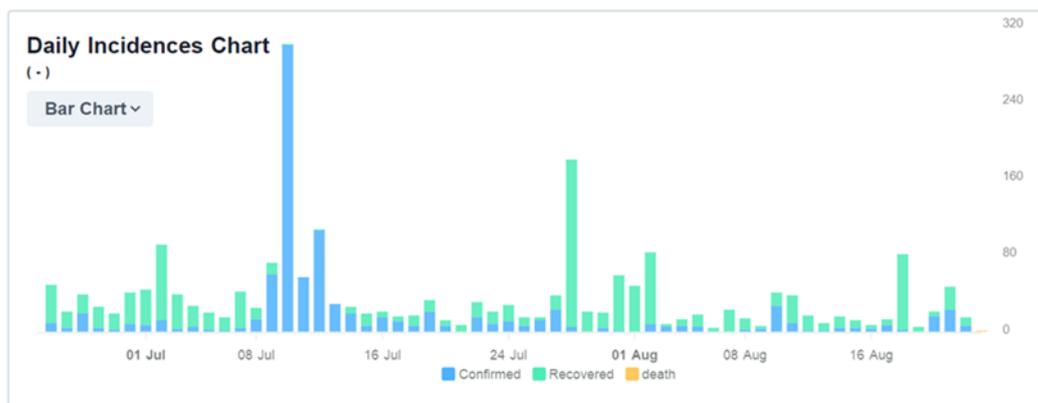


Figure 4: Daily Incidences Chart (Coronatracker.com, 2020)

When figure.4 is compared with figure.5 the increase in the number of infected patients can be compared along with identification of the clusters that were formed.

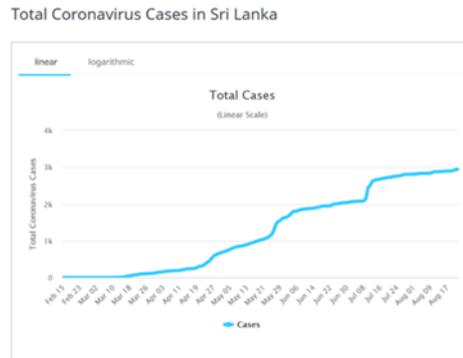


Figure 5: Total Coronavirus positive cases in Sri Lanka (Worldometer.com, 2020)

Figure.5 provides an analysis of the breakdown of daily COVID-19 infected patients while figure.6 displays the gradual changes in the number of active cases.

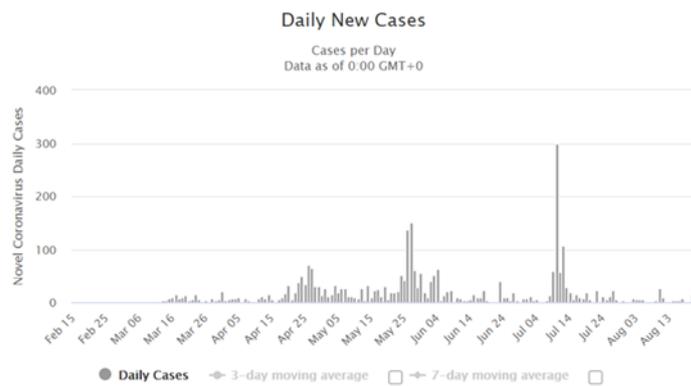


Figure 6: Daily new COVID-19 confirmed cases in Sri Lanka (Worldometer.com, 2020)

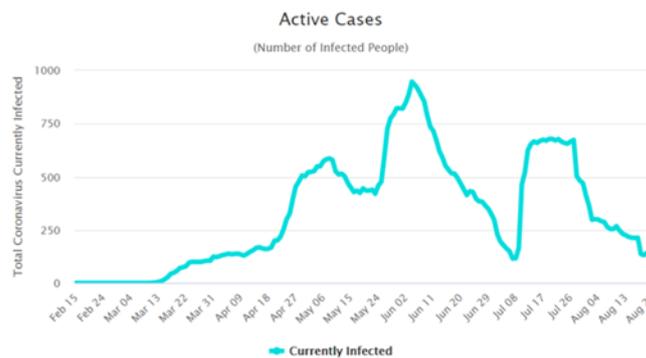


Figure 7: Active COVID-19 patients in Sri Lanka (Health.gov.lk, 2020)

Figure.7 provides a view of the active COVID-19 cases in Sri Lanka over the past 6 months. Apart from the two identified clusters the active cases seem to be declining over the months.



Figure 8: Fatality rate and Recovery rate comparison of Sri Lanka vs other countries (Health.gov.lk, 2020)

Figure.8 is a comparison of the Fatality rate vs recovery rate while figure.9 provides an overview of the statistics of COVID-19 in Sri Lanka in the past 2 weeks.

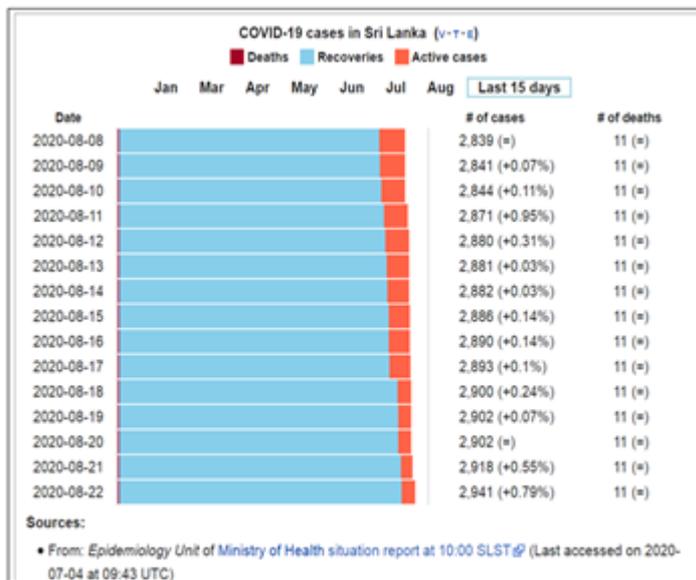


Figure 9: An overview of COVID-19 patients in the past 15 days (Wikipedia.com, 2020)

Figure.10 shows a comparison of the contamination of COVID-19 from a community contact to a health-care personnel contact. As seen in the chart the possible contamination risk for a person involved with patients is higher than for a person in the society.

Community contacts			Health-care personnel contacts			
Type of exposure	Example	Public health measure	Type of exposure	Example	Public health measure	
High-risk contacts	Living in the same household as, being an intimate partner of, or providing care in a non-health-care setting (such as a home) for a person with symptomatic laboratory-confirmed COVID-19	Domestic partner	Home quarantine for 14 days after last exposure <sup>†</sup> ; active symptom monitoring for 14 days after last exposure	Performing or being present in the room for a procedure likely to generate higher concentrations of respiratory secretions or aerosols while not using all recommended PPE <sup>†</sup> , or close contact while not wearing respiratory protection with a patient with laboratory-confirmed COVID-19 infection who was not wearing a facemask	Health-care personnel not wearing all recommended PPE who collected or were present for the collection of nasopharyngeal or oropharyngeal specimens <sup>‡</sup>	Home quarantine <sup>†</sup> ; exclude from work; active symptom monitoring for 14 days after last exposure
Medium-high-risk contacts	Prolonged or frequent contact with a person with symptomatic laboratory-confirmed COVID-19 <sup>§</sup>	Family members visited for prolonged periods or close work associates	Home quarantine for 14 days after last exposure <sup>†</sup> ; active symptom monitoring for 14 days after last exposure	Prolonged (15 min or more) contact with a patient with laboratory-confirmed COVID-19 infection or their secretions or excretions while not using all recommended PPE <sup>†</sup>	Performing a check of the vital signs and phlebotomy on a masked patient while wearing gloves and a surgical mask	Exclude from work; active symptom monitoring for 14 days after last exposure
Medium-risk contacts	Close contact with a person with symptomatic laboratory-confirmed COVID-19 and not having any exposures that meet a high-risk or medium-high-risk definition	Colleagues who work less closely together but still have regular face-to-face contact	Active symptom monitoring for 14 days after last exposure	More than brief contact (>1-2 min) with a patient with laboratory-confirmed COVID-19 infection or their secretions or excretions while not using all recommended PPE <sup>†</sup> that does not meet a high-risk or medium-high-risk definition	Examined patient for 5 min while wearing mask, gown, gloves, and faceshield (but no respirator)	Exclude from work; active symptom monitoring for 14 days after last exposure
Low-risk contacts	Being in the same indoor environment with (or within 2 h of) a person with symptomatic laboratory-confirmed COVID-19	Shared a hospital or outpatient waiting room or entered space within 2 h of a case	Active symptom monitoring for 14 days after last exposure	Any duration of contact with a patient with laboratory-confirmed COVID-19 while using all recommended PPE <sup>†</sup> , brief interaction with the patient (1-2 min) not involving direct contact while not using all recommended PPE <sup>†</sup> , or working at the same time and location as a confirmed case but unsure whether they were in the same room	Examined patient while wearing gloves, gown, faceshield, or goggles and appropriate, fit-tested respiratory protection; entered patient's room briefly to bring the patient a drink but did not have direct contact with the patient or their secretions or excretions	Active symptom monitoring for 14 days after last exposure
Non-contacts	Interactions with a person with symptomatic laboratory-confirmed COVID-19 that do not meet high-risk, medium-high-risk, medium-risk, or low-risk conditions	Walking by a patient in a corridor	None	Did not meet any of the high-risk, medium-high-risk, medium-risk, or low-risk conditions	Walking by a patient in a corridor	None

Figure 10: Contact made from the infected patient to others (WHO.int, 2020)

### Defence Forces of Sri Lanka

“In humanitarian emergencies, well-equipped militaries may use their logistical, communication, organizational, epidemiological and mobile laboratory resources to establish surveillance for populations vulnerable to epidemics”(Chretien et.al,2008). Taking up the national responsibility of assisting the battle against COVID-19, Army, Navy and SLAF played a prominent role, together with MOD, HM, Western Province Governor, Ministry of Foreign Relations, Sri Lanka Aviation and Airport Authority, Department of Immigration and Emigration, SLP and Sri Lanka Transport Board. Analysis of the secondary data proved that all three Defence Forces contributed to this immense task of fighting the COVID-19 in their own respective aptitudes. “May it be the ground, air or sea, the military medical personnel are the first respondents not only in the battle but in any sort of humanitarian assistance and disaster relief operations conducted locally or overseas” stated the Defence Secretary (www.defence.lk,2020).

### Contribution from the Sri Lanka Army

NOCPCO was established with the objective of centralizing, expediting and implementing all necessary preventive and containing measures against the transmission of COVID-19 pandemic. As per the direction of the health authorities, Army improvised all holiday homes at Diyatalawa to be QCs equipped with all facilities. Army improvised five more buildings, situated in Wann Echchankulam and Vavuniya to become functional as another QC (www.army.lk,2020).

“Military proved as effective coordinators in the response; while the military does not have a monopoly on effective coordinators, the professional focus on adaptability and efficiency proved an effective and necessary addition to civilian coordination at a time when civilian agencies were overstretched” (www.chathamhouse.org,31/07/2020). This was visible in Sri Lanka when employees at Free Trade Zone (FTZ) areas in Wathupitiwela and Katunayake were stranded in their boarding places, Army troops assisted to transport 5180-employees to their nearest destinations. All tri forces facilitated for all quarantined individuals to travel home after completion of their quarantine process. Army also assisted the SLP to strictly impose curfew hours and take the violators into custody to protect the people (www.army.lk,2020).

Jaffna and Kudasale QC were also operated under Army. Akurana and Ataluwagama areas were kept in isolation under the purview of Army. With the intention of creating a mental balance and well-being of the people who were confined to flats in Colombo during curfew hours, defence forces organised staging of musical entertainment sessions. Army beat groups performed at Havelock city and Rajagiriya (www.army.lk,2020).

CES troops of Army improvised a building complex at Iranawila to be an isolation hospital equipped with 40-beds with the robotic technology and auto pilot vehicles. This is for the safety of medical staff working in the hospital and the patients are confined to

separate cubicles during therapeutic process. CES troops completed the project within the time of two weeks. Army riders were put together for a Quick Reaction Team (QRT) to carry out random temperature checks on people who arrive in Colombo. If a person is diagnosed with abnormal temperature and is unaware of their infection condition, they will be immediately sent to the respective hospitals. (www.army.lk,2020)

“The Ebola epidemic provides evidence that; permissive contexts do exist within which militaries can be appropriate players in disease outbreak response” (www.chathamhouse.org,31/07/2020). When a returnee from Kandakadu Rehabilitation Centre was found COVID-19 positive at the Welikada Prison, all prison detainees and prison staff were subjected to over 700 PCR tests. Army converted the Kandakadu QC in to a field hospital. Under the purview of Army, QCs operate in Pompemadu, Punani, Kandakadu, Panichchankerni, Meeyankulam, Borawewa, Galkanda, Kahagolla, Army Base Hospital Diyatalawa, Gemunu Watch camp at Diyatalawa, Damminna and Rantembe (Army.lk, 2020). Transport facilities of round trips were made available to over 645,000 senior citizens when collecting their pensions (www.army.lk,2020).

### **Contribution from the Sri Lanka Navy**

“It was broadly agreed that if a disease outbreak occurs within a permissive environment, and civilian prevention and preparedness systems risk being overwhelmed, military organizational structure and organizational strengths in communications, logistics and coordination mechanisms have the potential to fill key gaps in a future civilian-led disease outbreak response” (www.chathamhouse.org,31/07/2020). Such an instance was at the peak of the COVID-19 outbreak, when Navy came aboard immediately to support the nation by setting up a QC at the Boossa naval premises. On the instructions of Commander of the Navy, Vice Admiral Piyal De Silva, the project included equipping of a four-storied building for this purpose. This QC can accommodate 136-people and are filled with all necessary facilities. (www.navy.lk,2020).

Navy personnel of the Welisara Navy camp participated in the isolation and quarantining work at Suduwella, Ja-Ela area where drug addicts were identified and later found positive for COVID-19. As a result, Welisara Navy camp-based 30-sailors were confirmed infected of COVID-19 and the entire camp premises was isolated with immediate effect (www.navy.lk,2020).

Navy took over the task of improving facilities of the Dr. Neville Fernando teaching hospital to treat COVID-19 patients and later it was declared as a hospital to treat suspected COVID-19 pregnant mothers. Navy joined hands with Suwaseriya Ambulance Service, Firefighting Unit of Colombo harbour, Harbour Health Service and medical officers from National Quarantine Unit and “conducted a drill at the harbour on to rehearse standard operational procedure that could be adopted in the event of transferring a suspected COVID-19 contracted patient from a ship to the relevant hospital ashore” (www.navy.lk,2020).

“The military emergency response to infectious diseases refers to the integration of military and government strengths and resources during a certain time period and range, according to the principles of unified command, resource sharing, and close cooperation, in order to solve and jointly respond to epidemic outbreaks of infectious diseases, minimize harm to human health, and maintain social stability”(Ma et.al, 2016). An isolation ward complex at the Northern Command Naval Hospital premises was open for COVID-19 patients with a shipwright workshop operating with the latest technology. This project was completed within one month and provides residential care to 12 patients. Navy music groups conducted musical concerts at the premises of various housing flats. This was done keeping necessary social distancing and health guidelines. Naval troops of Navy completely disinfected the Colombo National Hospital premises and other public places of interest (www.navy.lk,2020).

The Navy Research and Development Unit (R & DU) designed a remote-controlled smart appliance called ‘Medi-Mate’ which allows healthcare professionals to maintain distance from patients during testing and treatment. Medi-Mate is wheeled and remote-controlled which then allows medical staff to communicate with patients, transport medicine and meals, and spray sanitizing liquid through its’ automated nozzle. R & DU of Navy also developed a disinfection chamber that were placed in Kalubowila hospital, Neville Fernando Hospital and KDU hospital (www.vega.lk,08/04/2020).

### **Contribution from the Sri Lanka Air Force**

SLAF started their first QC in Vanni which can accommodate 200 residents. QCs were established in Palaly, Iranamadu and Mullaitivu which are manned by Medical professionals of the SLAF and MOH. These centres were established with the aim of assisting the government’s efforts in combating the COVID-19 (www.slaf.lk,2020).

With the spread of the COVID-19 in Sri Lanka IDH required more isolation facilities. On the directives of the Commander of the Air force, Air Marshal Sumangala Dias, SLAF Civil Engineers constructed a pre-fabricated building as an isolation centre with 16 isolation rooms. SLAF commenced renovation of two wards at Welisara National Hospital for Respiratory Diseases. These wards are manned by SLAF Medical personnel. (www.slaf.lk,2020)

SLAF technical team from SLAF Base Ratmalana, carried out the installation of Public Addressing Speaker Systems and Wi-Fi connected CCTV Camera Systems for 4 Wards at the Mulleriyawa General Hospital. The installation was completed within 24 hours which enabled the hospital health carers to monitor patients infected by COVID-19 from a safer distance. SLAF provided the required manpower and engineering expertise to modify the Homagama General Hospital and the District General Hospital-Chilaw so they can be used to treat COVID-19 patients.

“The national strategy for prevention and control, epidemic prevention and control are jointly deployed at all military-civilian levels, the infection source and close contacts are traced over time, medical quarantine is carefully carried out, and personnel screening and medical observation are put into practice. Military experts and military disease control and prevention institutions at all levels, who are obligated to execute these plans due to national requirements, should actively participate” (Ma et.al, 2016).

With COVID-19, a threat of illegal migrants attempting to enter Sri Lanka by sea was identified. SLAF conducted daily Aerial Surveillance Operations to assist Navy's efforts of blocking illegal entry. SLAF aircrafts conducted their surveillance operations along the International Maritime Boundary Line. A new need that arose with the COVID-19 Situation is an increasing need for accommodation facilities for staff working at IDH. SLAF constructed a Nurses Quarters building with 16 rooms. SLAF developed a 'Passenger Disinfection Chamber' at the Arrivals Terminal of the Bandaranayake International Airport. SLAF also contribute in disinfecting the departure lounge/passage of the airport, Negombo Hospital premises and the cardiology and other sections at the Colombo national hospital. (www.slaf.lk,2020)

"As militaries are highly structured, identifying where delineation should occur between strategic, operational and tactical decision-making is reasonably straightforward. But during an epidemic military struggled to effectively delineate and delegate decision-making within their organizations." (www.chathamhouse.org,31/07/2020). Fortunately for Sri Lankan Defence Forces the correct guidance and leadership was accurately provided.

"Chinese military has accomplished certain achievements regarding prevention and control of infectious diseases, but there are still many problems with the collaborative organization and command, professional power construction, equipment performance level, and emergency theory research, which can be solved by establishing a deep civil-military integration mechanism" (Ma et al, 2016). This could be an added source of knowledge for Sri Lankan Defence Forces when implementing procedures in the future.

## CONCLUSION AND IMPLICATIONS

People all around the world are focused with finding health care strategies for minimising the impact of COVID-19 on the community. This virus has become a threat to the public health and seems to spread easily among people. The objectives of this research study was to analyse the effects created by COVID-19 on Sri Lanka, to identify the key contributions made by the Defence Forces of Sri Lanka during the battle against COVID-19 and to provide direction for Sri Lankans with ways to continue life amidst COVID-19.

This research is a qualitative study mainly undertaken with content analysis of the information extracted from secondary data. Selected conversations were also conducted with key personnel of the Defence forces to obtain an in depth understanding and to clarify the accuracy of the results. The secondary data was obtained from publications of the government including official web sites, various research reports, library sources, technical and trade journals. After analysing the data it is evident that compared with many countries in the world, Sri Lanka is very successful in the fight against Covid-19.

The important statistics of the Sri Lanka's COVID-19 journey contributed to identifying the effect Covid-19 had on Sri Lanka. A Conceptual Framework was developed by the author in order to identify the contribution of the Defence forces in the battle against COVID-19. This conceptual framework is the ideal fit for this qualitative study with content analysis and the main elements analysed were Direction and Guidance, Supervision and Planning, Coordination and Control and, Communications of the Defence forces.

One of the main reasons behind Sri Lanka's success can be seen as the fast reaction to early warnings of the virus issued by the WHO and China. Many other countries continued normal routine unconcerned but Sri Lankan government rapidly prepared the state funded health service and, the Defence forces were arranged immediately. The contribution made from the Defence forces towards battling COVID-19 is immeasurable and the key findings of the study had identified the various projects separately.

The following reasons are identified as the main strategies behind the success of Sri Lanka's fight against COVID-19.

### *The lockdown was rapid and effective.*

In March 2020, Sri Lankan government closed all borders to foreign travellers and made people coming home quarantine for 14-days. Full lockdown measures were introduced with island-wide curfew. As per international guidelines lockdown rules were implemented to "suppress the spread of the virus early and bought precious time that other countries wasted" (Pyzik, 2020).

The Defence Forces joined in the battle against COVID-19.

The tri forces lead by the MOD rapidly established QCs around the country. Their effort was highly efficient and the end result was of excellent quality. The Defence forces renovated hospitals, innovated new technology and assisted the SLP with peacekeeping and law enforcement.

### *Outstanding contribution was made by the health Sector.*

Sri Lankan government reacted quickly and adopted the WHO guidelines as soon as the rapidly escalating threat was made aware of ('Ada-Derana',www.deranatv.lk,2020).

### *The rules were communicated efficiently and accurately.*

All mass media, print media and web-based media worked in alliance when communicating important information to the public. The head of NOCPCO, Defence Secretary, Director General of health Dr. Anil Jasinghe and media spokesperson of COVID-19 DIG Ajith Rohana constantly held media briefings and updated the situation of the country. Frequent communication ensured that all citizens helped to contribute to win this battle.

### *Government took care of the needs of the people.*

Sri Lankan President HE Gotabaya Rajapaksa introduced a relief fund called 'COVID-19 Healthcare and Social Security Fund' to combat COVID-19. The President provided grace periods to pay monthly electricity and water bills. With the assistance of the tri forces the government arranged home delivery of the essential goods to control the crowd.

*The country started boosting its testing capacity.*

As per WHO guideline on mass testing, the SL government initiated testing on all returnees from other countries, people who are suspected of being in contact with an infected person as well as random sample testing.

*Geography of the island played to the advantage of Sri Lanka.*

Being an island has greatly helped Sri Lanka's pandemic response. This gave the government more control over who can enter to the country compared to countries with large land borders.

The Sri Lankan government's response to the COVID-19 pandemic and the high level of contribution from the Defence forces needs praise and appreciation. Although one might think that it is easy to get things done from military personnel as following orders is part of their job, it is actually not simple to get this kind of commitment, interest, passion and an individual sense of duty. The correct guidance from the President, Defence Secretary and the three Commanders of the tri forces was the key to this success. All the countries around the world can learn from Sri Lanka's response to COVID-19 and start implementing these strategies.

As mentioned in the conceptual framework, the transformational qualities of the leaders of the Defence forces contributed towards the success during COVID-19. The subordinates need to be motivated for them to contribute fully to assist in the nation's battle against COVID-19. Therefore, the Defence forces must invest in an effective system to build a succession of leadership which is sustainable.

Moynihan (2012) suggests that "those in positions of authority must exhibit certain styles of leadership that are deemed effective in responding to disasters. The ability of a leader to motivate, communicate and articulate an organization's mission and to effectively lead during times of disaster is often cited as crucial components of effective disaster management". During a disaster "a transformational leader may be perceived to effectively build a resilient organization, for instance, when he or she inspires and articulates a vision for handling future emergencies" (Stern, 2013).

## RECOMMENDATIONS

Fulfilling the final objective of the research and providing direction to continue life amidst COVID-19, a few recommendations can be made. Most important factor to be adopted is to control and suppress the spread of the virus. Along with that the health services should be strengthened and maintained with high standard. As the research firmly identified, obtaining the maximum cooperation from the Defence forces is one of the most important factors for surviving COVID-19. Finally every member of the community must support each other to stay safe and healthy. "Dedicated civilian-military liaison officers should be integrated across organizations as permanent fixtures, enabling civilian-military coordination in crisis to be simply an extension of existing interagency coordination structures" ([www.chathamhouse.org](http://www.chathamhouse.org), 31/07/2020).

Since there are no standard treatments for COVID-19, it is important to avoid infection or further spreading. Sanitising, washing hands regularly and wearing face masks to cover nose and mouth can be seen as preliminary precautions. Healthcare workers who come in contact with possible Covid-19 positive patients must use protective equipment. Corpses of patients should be burned or buried deep.

Even-though COVID-19 has low to moderate mortality rate to-date, there is no standard treatment or cure found. The Defence forces should continue to provide their support and strength to control and fight off this deadly disease.

## LIMITATIONS AND FUTURE RESEARCH

The COVID-19 global pandemic has affected every area of our lives, and has made larger effects in education, with higher education and research activities taking place in online form. Therefore, this research had to be limited to a qualitative study mainly undertaken with content analysis of secondary data. Even though a chosen face-to-face and telephone conversations took place, the research could have an additional value if a significant amount of primary data was included in the study. In spite of that limitation, the research has made some significant contribution to the understanding of the effects of COVID-19 for Sri Lanka and the service extended by the Defence forces in the battle against COVID-19. The findings of the research have made recommendations of how to continue life amidst COVID-19.

This research provides a starting point for researchers to conduct research on COVID-19 in Sri Lanka and the contribution of the Defence forces during this journey. The world is witnessing many countries involved in various types of research on COVID-19. Such research findings are constantly influencing governmental policies and public opinions. "There is a need for critical examination of the expanding role of militaries in post-disaster assistance and global infectious disease surveillance that extend military public health capabilities to civilian populations in need" (Chretien et al., 2008).

"International organizations, reputable scientific journals, and funding bodies have been calling educational researchers around the world to collaborate and cooperate" (Chan, 2020). Therefore, this research paper will influence and inspire further research to be conducted in the areas of COVID-19 pandemic in Sri Lanka. One such topic for future research can be suggested as a comparison of the journey during COVID-19 of Sri Lanka with the aid of the Defence forces as opposed to any country that did not receive the assistance or contribution from their Defence forces.

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Dr. Thesara V.P. Jayawardane  
*Senior Lecturer, Department of Industrial Management*  
*University of Moratuwa, Moratuwa, Sri Lanka.*  
Email : [thesaraj@uom.lk](mailto:thesaraj@uom.lk)