

Integrating Health and Urban Security: Urban Management Approach that Contained COVID-19 Wave-1 in Sri Lanka

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Abstract

The rapid transmission of coronavirus (COVID-19) resulted in more than 664.6 million infected patients worldwide by 31st December 2022, with 6.69 million deaths. Despite having formidable medical facilities, the USA, India, France, Germany, Brazil, Japan, South Korea, Italy, UK and Russia etc. were leading the tables in terms of patient numbers. At the epicenter of the pandemic, numerous strategies were adopted around the world to fight the virus. The ever-changing nature of the threat made it even deadlier in a safety perspective, as the enemy was undetectable in the form of a virus that endangered human existence. A change in the perception of 'threat' in terms of a security viewpoint was fostered; from a 'visible' to an 'invisible' one. The early intervention with the military being placed in control in urban/rural areas was identified as an effective grassroots level means to control the virus in Sri Lanka. In this context, COVID-19 was considered as a security threat than a health threat. The Chinese way of source control, spread control and virus tracing was carried out by the Sri Lankan military as well as police in order to contain its spread. Approximately ten weeks of Sri Lanka's progress that was recorded during wave-1 of the pandemic has been discussed here, in comparison to examples from around the world. In this light, the paper attempts justification of the successful military-led urban management system as it happened in Sri Lanka, so it could be applied elsewhere.

Keywords: COVID-19, Urban Management Process, Wave-1, Visible to Invisible Threat

Introduction

According to a worldwide report produced by the UN Human Settlements Programme (UN-Habitat) that seek to enhance urban security the world over, the factor of urban safety is recognized as one that pertains to the security of people (and not of the state) (UN-Habitat, 2007; Leaning, 2000). It also considered that protection of people during conflicts as well as in post-conflict situations, the availability and

affordability of essential healthcare is paramount. Therefore, the importance of healthcare in terms of urban security has become a matter of priority in the recent times. The novel coronavirus (SARS-COV-2) epidemic that was recognized as COVID-19 sprung up from the city of Wuhan in China, around December 2019 (Aylward, 2020; Lieu et al., 2020). Due to its deadly nature and high ability of transmission among humans, it has threatened mostly cities with high population densities. The COVID-19 has been identified to possess a very high propagation rate than any other virus of that family (Li et al., 2020). Moreover, the World Health Organization (WHO) declared this as a 'pandemic situation' as well as a 'global public health emergency' on 30th January 2020 (WHO, 2020a). By 31st December 2022, there were 664,694,619 confirmed cases reported with 6,696,612 deaths worldwide (worldometers.info, 2020). Therefore, it can be argued that means of an early response is vital to control the spreading of such viruses. The 'safe cities index' has four crucial pillars covering the security aspects pertaining to personal, digital, health and infrastructure domains (The Economist Intelligence Unit, 2019). Therefore, that is the best evidence to consider that urban security does not limit merely to terrorism and violence anymore. The security of people in cities during a pandemic is in fact considered more critical than any other imaginable terrorist activity. Such a situation has the potential to kill more with a few droplets than by bullets or bombs during an armed conflict.

This virus marked a change in the perception of security itself owing to the fact that the deadly enemy was invisible in the form of a virus with the potential to endanger human survival. The change to the perception of 'threat' in terms of security was marked from a 'visible' to an 'invisible' one. Therefore, urban planning and urban security initiatives leading to the combating of the virus is worth understanding, in order to conceive how a nation can contain such. Moreover, this phenomenon directly related to people's security, where the number of patients could excessively multiply if the people were not taking relevant security measures to control the virus. While the world that had for some time been preoccupied with Weapons of Mass Destruction (WMD), by this juncture, the threat of biological weapons became a grim reality. Before Covid-19, there existed other infectious diseases such as influenza, SARS, MERS, IBOLA and bird flu etc. Although such viruses threatened the world, their spreading remained more local than global in contrast to the case of COVID-19. Since the COVID-19 epidemic, the concept of 'human security' has been considered as a necessary paradigm for understanding vulnerabilities and criticalities in the Sri Lankan context; as a part of changes that transcended security concerns. Thus, visible to invisible threats were identified, and the readiness to deal with especially invisible threats was considered at the country level in terms of national security. Since the global pandemic has affected almost day-to-day life concerns across the continents (including urban management and urban security fields), it has become a prominent topic among pandemic-related scholars. Hence, this paper contributes to the growing body of knowledge in the field of urban management and urban security (during the COVID-19 pandemic). Moreover, it studies the actions taken by various cities from around the world during the pandemic, to identify the best practices for implementation in the sphere of urban security (through urban management).

In this light, the study carries two objectives. The first objective is to ascertain successful worldwide responses towards the COVID-19 pandemic, with an urban management perspective. The second is to assess the unique home-grown military-led Sri Lankan system of success for fighting the pandemic, with the same perspective aforementioned. The aim here is to

recommend better urban management measures for ongoing/future pandemic situations for the world.

Methodology

The research strives to report the Sri Lankan success story pertaining to wave-1 of the COVID-19 pandemic. The methodology is qualitative and the strategy is archival research that relies upon literature. In terms of collecting information, the latest extant research papers and web-based articles etc. are resorted to. The research that uses tables to analyze the accumulated information adheres to three phases that correspond to the three steps illustrated below. The conclusions are derived based on the aforesaid analysis.

The study narrates initially the worldwide examples of how the pandemic was tackled, and illustrates the different responses employed by different countries. Then having discussed the constraints for lock down, the Sri Lankan Strategy is brought to the fore. The Covid-19 control system in Sri Lanka is then elaborated on, discussing the urban management initiative that involved source control, spread control and virus tracing. The Covid-19 Presidential Task Force in Sri Lanka is then introduced before moving on to the analysis. The analysis leads to suggestions for the present and future; made in terms of measures to control pandemic situations.

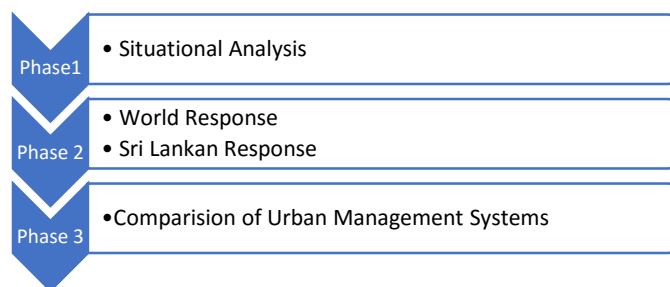


Fig. 1: Summary of Methodology.
Source: Author (2023).

Discussion

Worldwide Examples

Boasting of one of the world's largest populations, China controlled the virus with a lesser number of deaths compared to Europe and the US. Therefore, it is imperative to see their control solutions since the outbreak. The Chinese study in fact indicated three measures in controlling the virus – virus source control, virus spread control and virus tracing (Xu et al., 2020). Treating confirmed patients at hospitals in isolation, and keeping suspected infected persons at a discreet close space is virus source control. The virus spread control suggests the strict restrictive measures applied towards people to control the spreading of the virus. Finally, virus tracing is the most important control measure that attempts to eliminate the source in order to control the situation completely. The aforesaid authors also mentioned that it should be an emergency affair that demands mutual support of all relevant stakeholders – with several urgent tasks – to combat the virus.

When considering the Chinese experience, it could be stated that the three aforementioned solutions were not highly effective at early stages of the outbreak. However, they were able to lock-down Wuhan city – the epicenter where it all began – and implemented some control with the use of the three measures. Hence, it could be argued that medical treatments alone do not serve the purpose of combating a pandemic. In this light, exercising

control over social distancing while identifying patients and their direct contacts is arguably the most important aspect. Certain studies show how New York City minimized its losses during the 1918–19 ‘Influenza pandemic’ (also known as the ‘Spanish flu’). After enforcing several social distancing policies by the Department of Health (*i.e.* isolation and self-quarantine policies), New York City was staggered during business hours, which led to this control. The mega police in fact, recorded the lowest death rate on the eastern side seaboard of the USA (Markel et al., 2007).

The COVID-19 optimum control theory was discussed by Indian researchers as an advance control theory. They discussed five control variables as control strategies (Shah et al., 2020). These strategies included isolating the infected, self-quarantining of the exposed, extra medical attention towards infected patients to reduce critical cases, hospitalization facility improvement for infected as well as critically infected patients. The research conducted by Karp et al (2013) in the UK pertaining to improving epidemic control strategies discovered an alternative solution to reduce spreading during an epidemic. This alternative was additional testing that could improve early detection. Having discussed best possible solutions to prevent spreading of the virus, researchers also tried to understand the failures in combating it. As of 31st December 2020, the countries reaching a critical threshold of infections (according to the total number of infections) were USA, India, Brazil, Russia, France, UK, Turkey and Italy (worldometers.info, 2020). Contrary to their fatal records, almost all these countries at the time possessed formidable medical facilities and experts. Hence, it is pertinent here to reveal the underlying reasons behind the proliferation of such spreading and fatalities.

The Guardian (2020) illustrated the fact that the world leaders at the beginning, accepted this pandemic as the ‘Chinese Virus’. Further, elaborating on the situation in the UK, they criticized the way the deadly virus was dealt with initially. The country eventually found itself expecting to flatten the curve, only after reaching a staggering 40 Million infected cases. Europe never imposed curfew restrictions, and it is often argued that it was the premature relaxation that put its countries in real danger subsequently (Rudan, 2022). It is also believed according to the same source that if Italy declared its lock-down two weeks earlier, they would have saved thousands of lives. Hence, it is apparent that the lock-down and quarantine measures were of utmost importance to defeat COVID-19. Analogous to the serious measures taken in many parts of the world, the US also declared a national emergency on 13th of March 2020 that reflected in the closures of bars, cinemas, restaurants and schools etc. They also canceled sporting events and large gatherings (Chowell and Mizumoto, 2020). However, it was not as restrictive as certain other parts of the world that implemented stricter measures. As an example, the US discouraged gatherings of more than 50 people only. Even a set of fifty people in one place is arguably a happy heaven that could spread COVID-19.

As a response to the coronavirus, many countries were adopting containment strategies such as activating national response management protocols, positive case finding, isolation, contact tracing (leading to quarantine) and educating the public through different means (including social distancing, hand washing, wearing of masks and self-quarantine) etc. Moreover, some countries enforced restrictions on public gatherings too. Such measures led to delays in major surgeries of patients and more detrimentally, controlled the demand for intensive care unit (ICU) beds. However, different nations adopted various strategies at different levels, in their own capacities. With WHO’s initiative that considered critical preparedness, readiness and response actions for COVID-19 (WHO, 2020a) recognized four actions referred to as the ‘4Cs’. It stood for countries with no cases, countries with first few cases, countries with first clusters and ones with community transmission and spread. In this backdrop, Nurse (2020) published ‘Global Responsibilities and an Emergency Framework’ for Countries and Communities.

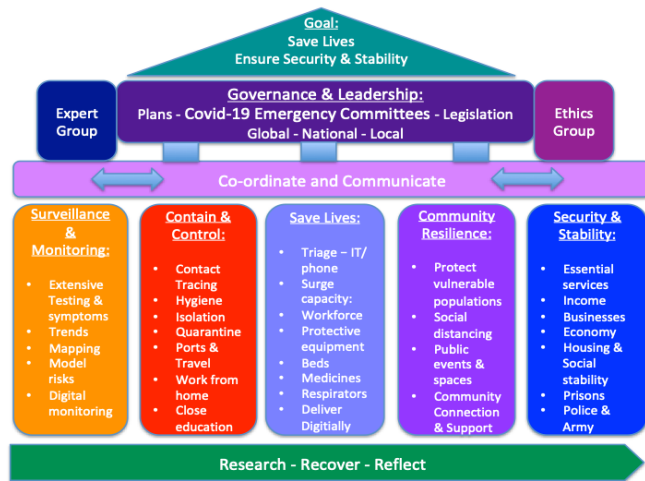


Fig. 2: Pandemic Emergency Response to COVID-19 by Inter Action Council

Source:

<https://www.interactioncouncil.org/sites/default/files/styles/teaser/public/2020-04/Framework.png?itok=gPSHV6MK04%2FFramework.png%3Fitok%3DgPSHV6MK&action=click>

Worldwide Responses

After considering examples from other countries, it appeared that the lock-down process was effectively hindering the pandemic expansion in terms of urban security. Deshwal (2020) confirmed the aforesaid with results obtained from his study in three continents. Moreover, a recent study was carried out in Germany with simulations that recommended a complete lock-down of the country, when 10% of its hospital capacity was vacant (Muller et al., 2020). However, there are some loopholes also worth considering. Lock-down is a strict measure to limit people in public places, in order to control the spreading of the virus. However, different countries adopted various levels of lock-down standards on their own. At the centre of a lock-down were the restriction of transport within the city, and the prohibition of traffic between states, provinces and districts. The WHO also strictly recommended lock-down measure to curb the spreading of the virus. The following table depicts the key responses and their effectiveness with results from around the world (available by April 2023).

Country	Social Distancing	Testing and Contact Tracing	Quarantine and Isolation	Implementation Method	Population	No of Cases	No of Deaths	Deaths as % of Cases
South Korea	Implemented early and comprehensive social distancing measures, including mandatory mask-wearing, closure of schools and restrictions on public gatherings.	Rapidly increased testing capacity and implemented a comprehensive contact tracing program that included the use of Smartphone apps.	Implemented strict isolation measures for individuals who tested positive for COVID-19, and quarantine measures for individuals who had been in close contact with confirmed case/s.	Public health authorities and the state.	51,709,098	543,901	7,163	1.32

New Zealand	Implemented a strict lockdown and social distancing measures, including closure of schools and non-essential businesses.	Implemented widespread testing and contact tracing measures, including mandatory isolation for all arrivals at the border and mandatory quarantine for individuals who had been in close contact with confirmed case/s.	Implemented strict isolation measures for individuals who tested positive for COVID-19 and quarantine measures for individuals who had been in close contact with confirmed case/s.	Public health authorities and the state.	5,137,555	17,934	44	0.24%
Singapore	Implemented social distancing measures, including restrictions on public gatherings and mandatory mask-wearing.	Implemented widespread testing and contact tracing measures, including the use of technology such as a contact tracing app.	Implemented strict isolation measures for individuals who tested positive for COVID-19 and quarantine measures for individuals who had been in close contact with confirmed case/s.	Public health authorities and the state.	5,896,686	130,980	245	0.19%
Australia	Implemented social distancing measures, including restrictions on public gatherings and mandatory mask-wearing in some areas.	Implemented widespread testing and contact tracing measures, including mandatory quarantine for all arrivals at the border and mandatory quarantine for individuals who had been in close contact with confirmed case/s.	Implemented strict isolation measures for individuals who tested positive for COVID-19 and quarantine measures for individuals who had been in close contact with confirmed case/s.	Public health authorities and the state.	25,732,173	304,539	1,267	0.42%
United States	Implemented social distancing measures, including restrictions on public gatherings and mandatory mask-wearing in some areas.	Implemented testing and contact tracing measures, although implementation varied widely across different states.	Implemented isolation measures for individuals who tested positive for COVID-19 and quarantine measures for individuals who had been in close contact with confirmed case/s although implementation varied widely across different states.	Public health authorities and the state.	333,554,597	70,521,829	1,590,145	2.26%

Peru	Implemented strict lockdown and social distancing measures, including restrictions on public gatherings and mandatory mask-wearing	Increased testing capacity and implemented contact tracing measures, although implementation faced challenges due to limited resources and logistics	Implemented strict isolation measures for individuals who tested positive for COVID-19 and quarantine measures for individuals who had been in close contact with confirmed case/s.	Public health authorities and the state.	32,971,846	2,248,371	199,736	8.89%
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Table 1: Key responses and results from around the world. **Source:** Author (2023).

Constraints for Lock-down

It is often said that Locking-down is not as easy as the health specialists believe, as it deals with several intrinsic problems. Curtailing access to basic needs in a world where many less-privileged people need daily commitments to find their food becomes a real issue. Hence, the notion of 'work from home' cannot be applied to everyone. As an example, Chandrashekhar's (2020) revelation that millions of Indian workers had to combat the virus without their wages can be posited. Consequently, many migrant workers started moving from urban to rural safe havens without really knowing if they were infected or not. According to Bagnetto (in rfi.fr/en/, 2020), the street vendors in Africa were already feeling the squeeze, and the same scenario could also occur throughout the African continent too. In Canada, the informal labor workers were highly exposed and vulnerable to natural contamination, where an intense level of insecurity of their basic needs (mainly food) was felt, in case they became infected and could no longer work. Further, food supply could impact urban food prices that could potentially drive social unrest. According to theguardian.com (2020), a survey after merely one week of lock-down in Italy showed that 93% of the people became overwhelmingly anxious. Further, a 42% suffered bad moods and, 28% of respondents had sleeping problems (Henley, 2020). Similarly, Andrade (2020) indicated that the lock-down could result in an emergence of new cases of mental illness among a considerable number of citizens. International Criminal Police Organization (INTERPOL) on the other hand, stated that with rampant levels of anxiety, people may easily become victims of online fraud activities during the COVID-19 outbreak (Weerth, 2020).

In the US, amidst the coronavirus outbreak, people were on the streets demanding the lifting of social restrictions in California, Maryland, Nevada and Indiana (Miller, 2020). The same news reported that 22 million job losses over four weeks around the country. When a pandemic is at its full flow, the affected countries often find themselves in a dilemma; whether to compromise health security or economy stability. Indonesia with nearly a population of 274 million people had a big possibility for mass infection levels. There was great potential for swift viral expansion owing to its large population with a high travel of mobility. However, the head of the state made it clear that he was not going to consider the idea of lock-down (Bayuni, 2020). The factor of lockdown has a great negative economic impact. Christopher Wood (in cmaustralia.edu.au, 2020) – Global Head of Equity Strategy at Jefferies – once stated that lockdown in countries such as Indonesia and India could be more disastrous for human welfare as well as economies; since there is neither any help for small businesses nor are there unemployment advantages. Thus, the pandemic situation of infectious diseases could have a significant effect that could lead to the weakening of certain nations as well as whole areas of the world. This could happen via illness and mortality, with staggering economic and social losses.

The Sri Lankan Strategy

The Sri Lankan state took stern actions to mitigate and manage the situation at the initial period of the coronavirus epidemic. Since the first local case of COVID-19 was confirmed on the 11th of March 2020, the country went into harsh lockdown within days. This curfew-based lockdown implemented by Sri Lanka was different from the lockdown that was seen in many other countries such as the US and many European countries including the UK. The curfew and lockdown began on the 20th of March 2020, with complete restriction on people's movements, and prohibition of social gatherings. Unlike in many other countries, where citizens were able to walk in the park or have a drive to the grocery store, the curfew imposed by the Sri Lankan state ensured that people stayed at home. This was mainly to avoid non-essential travel of its populace. Those who were essential workers or had a valid reason to leave homes required a curfew pass from the police of their respective areas of residence. The workplaces/schools/businesses were unexpectedly closed. Only government/private sector essential service providers and grocery/food retailers were given approval to continue their services in making deliveries to domestic areas (exemplars.health, 2020). In this light, it is fascinating to investigate the role played by the ruling apex and ranks appointed by it to understand the coordination and cooperation between different stakeholders of the pandemic prevention process.

The Democratic Socialist Republic of Sri Lanka is an island nation located in South Asia, and boasts of a population of approximately 22 million. Just before the pandemic broke, the country elected an executive president as its ruler in November 2019. Interestingly, newly elected Gotabaya Rajapaksha was a retired army officer who had once served as the Secretary of Defence during the military defeat of one of the world's most ruthless terrorist organizations – the Liberation Tigers of Tamil Eelam (LTTE). After the end of the ethnic crisis, his portfolio was extended with the added responsibility of handling the Ministry of Urban Development too. A several top notch appointments of the government machinery was held also by a set of well-experienced retired military officers (*i.e.* the Secretary of Defence, the Director General of Military Intelligence, the Chairman of Ports Authority of Sri Lanka, the Director General of Sri Lanka Customs, the Chairman of Civil Aviation Authority, the Director General Disaster Management as well as the Chairman of Consumer Affairs Authority). The appointment of such personnel was critical in ensuring the functioning of the country's imperative services under pandemic circumstances. At the outset, Sri Lanka considered this situation as a security threat to its people rather than a medical risk. Therefore, the president decided to control it as a military-led system; with the support of health authorities and other essential services. However, Amarathunga et al (2020) claimed that the system had certain flaws pertaining to excessive militarization of the nations as well as its human rights. However, such claims are yet to be proven or disproven.

Covid-19 Control System in Sri Lanka ***An Urban Management Initiative***

In Sri Lanka, the National Operation Centre for Prevention of COVID-19 Outbreak (NOCPCO) was established as an urban management initiative to combat the spread of COVID-19 on 16th of March 2020. This setup was headed by the Acting Chief of Defence Staff and the Chief of the Sri Lanka Army (The State Intelligence Service, 2020). The virus control system from China as indicated by Xu et al (2020) was adopted by the aforementioned setup.

Source Control

As the first step of source control, a special mechanism was introduced with a collective approach to scan and monitor all the arrivals at Sri Lanka's international airport. From 13th March 2020 onwards, passengers were directed to quarantine immediately after disembarking, in order to avoid them mingling with the country's populace. The factor of source control was considered as one of the priorities, where a special military unit was established in the Bandaranaike International Airport to receive patients checked by the local health staff, before being transferred by military vehicles to designated quarantine centers. Moreover, 45 quarantine centers were established in the country, based on military infrastructure. As a further control measure, 'on-arrival visa' for tourists was also canceled from the same day. Moreover, the people quarantined were also subjected to Polymerase Chain Reaction (PCR) test from early April 2020. Moreover, high-risk areas were identified throughout the island, and accordingly, Colombo, Gampaha, Kalutara, Puttalam and Jaffna Districts were considered 'no move' districts. An inter-district travel ban was also implemented as a means of source control. By this point, a predominantly military-dominated security strategy collective was activated to maintain essential services (The State Intelligence Service, 2020). When considering examples from other countries, Yunus and Rezki (2020) illustrate that the government of Indonesia failed to impose lock-down by following similar cases elsewhere, and could not contain its virus spreading sources. Therefore, source control was proven as an immediate requirement to curtail the spread of this disease.

Spread Control

Five days after the first local case was reported, 16th of March 2020 was declared as a holiday in Sri Lanka, and it was subsequently extended until the 19th of March. A form of police curfew was imposed on selected areas prone to the virus in order to control its spreading. On the 20th of March 2020, the aforesaid holiday was extended to cover both public and private sectors, where 'working from home' was introduced. The country officially locked-down from the 20th of March 2020, with special travel restrictions. From time to time, this restriction to mobility was lifted; especially in virus-prone areas for people to buy essential items. The Sri Lankan military and police personnel were deployed to ensure the curfew throughout the island. The close associates of the detected patients were placed on self-quarantine in their homes, and were monitored throughout by the military, police as well as Public Health Inspectors (PHIs). When a positive patient was found to have a history of visiting somewhere, those areas also were sealed-off by the military and police. Those sealed-off areas were provided with required food items, until the end of their respective quarantine periods. No one was allowed to move in or out of such areas.

By 18th of April 2020, towns and villages such as Atalugama, Akurana, Puttlam, Grandpass, Kotahena, Pannila and Cheenakoratuwa were isolated by the military and police in order to stop their spread control. When considering other parts of the world, despite massive lock-downs, the Chinese had used electronic surveillance to control its public (Kupferschmidt and Cohen, 2020). Further, the Indian experience recommended that 'law is the only Medicine' (Kumar et al., 2020). With relation to the Indian case, Agarwal (2020) indicates the gravity of spreading, where it can even lead up to a sudden system failure. When considering Malaysia, it was a limited lock-down approach, where immediate controlling of movement was practiced (Salim et al., 2020). However, Brzezinski et al (2020) discussed in their research findings – pertaining to the US – as to how governments' actions can influence community behavior, and *vice versa*. Hence, the government and people both share a responsibility to manage their cities

to impose spread control. On the other hand, Bossert et al (2021) studied various levels of preventive measures leading up to total lock-down from South Africa. It is also evident that the self-discipline of the people helped achieve the desired results by the state in Japan (Djalante et al., 2020).

Virus Tracing

Tedros Adhanom Ghebreyesus (WHO, 2020b) – the Director-General of the WHO – famously stated during the coronavirus pandemic that "[you] cannot fight a fire blindfolded. And we cannot stop this pandemic if we don't know who is infected", at a press release on the 16th of March 2020. The aforesaid statement frames the importance of virus tracing.

In Sri Lanka the Public Health Inspectors (PHIs) were employed to trace the known clusters, while state intelligent services led by the military intelligence elements were used to discover the hidden cases whenever certain people intentionally lied to the inquirers. Virus tracing is not easy when the patients conceal their travel history and symptoms to doctors as well as other interrogating parties. The Sri Lankan doctors and military personnel along with the PHIs, had bad experiences pertaining to several such cases around the country. Even entire hospital wards in some cases, along with its doctors and other staff members, had to undergo quarantine procedures due to dishonest patients. However, the military and police intelligence agencies were successful in handling such cases of concealment. According to the report by WHO-China joint mission on COVID-19, the Chinese had used have used high tech such as 'big data' and 'Artificial Intelligence' to trace its cases (Aylward, 2020). However, as a developing country, Sri Lanka did not boast of such advanced technologies, and the same was applicable to most countries around the world.

On the other hand, research conducted in Switzerland has concluded that even though the costing for testing and tracing is higher in the short term, it is more worthwhile in the long run in terms of social benefits (Salathé et al., 2020). Therefore, virus tracing is also equally crucial for treating patients. In the Sri Lankan scenario, more weight was given to trace patients, where PCR tests were conducted pertaining to suspected cases. The main difference in the local system was that military personnel along with the police in Sri Lanka did their best in terms of investigations to fulfill virus tracing. The support from the general public too was at a satisfactory level (Srinivasan, 2020). Therefore, it could be argued that the collective security strategy on pandemic recovery and the consequent viral management in urban settings was functioning at an acceptable level in Sri Lanka. It had successfully overcome the challenging pragmatic contours that relate to virus tracing.

Covid-19 Presidential Task Force in Sri Lanka

The initiative by Government of Sri Lanka (GOSL) as a response to the coronavirus outbreak in early 2020 involved a collective security strategy that was implemented with the involvement of multiple sectors (*i.e.* a multi-sector approach). It was broadly focused on four lines of operations – with the military/police/intelligence parties leading the way. The medical/health care and economic/community wellbeing as well as a public awareness programme all followed. The military's predominant approach was coordinated and tasked with identifying individuals who had either arrived in the country from affected areas from around the world, or had been exposed to the virus by any means. The isolation of these individuals was assured by enforcing strict measures with quarantine in quarantine centers, complete lock-down, isolation/lockdown in clusters (to clusters that had been exposed to the virus), and

tracing of origins in terms of cases. A Presidential Task Force was established to ensure the proper delivery of continuous essential services for the general public to maintain day-to-day life in Sri Lanka in the wake of the COVID-19 pandemic. All the stakeholders were linked and supported to fulfill their essential tasks, in order to sustain the country's vital services. The responsibilities entrusted to the task force (except for maintaining quarantine centers) are the following:

- Organize and operate supermarkets and retail networks to supply agricultural products directly to customers at their homes.
- Create a distribution platform to supply farm products from the extant 'economic centres' to the household level.
- Coordinate/control actions to facilitate exports and importation of essential foods/drugs.
- Provide health/sanitation facilities to the personnel engaged in providing critical services/goods.
- Fuel stations were kept opened as a necessary service during curfew hours.
- The farmers were assisted with their needs to ensure a continuation of farming activities for the production of paddy, vegetables, fruit, cereals, fish, meat, milk and eggs etc. Plantation products such as tea, pepper and cinnamon saw no exception.
- Supply of seeds, seedlings and machinery for farming activities was ensured. This initiative also included a continuous supply of fertilizers, smooth functioning of waste disposal and continuous electricity/water supplies.
- Focussing of special attention on women, low-income families and persons directly at risk was carried out, in order to maintain normalcy in their lives.
- Making Banking facilities available for at least 04 hours a day was affected, utilizing minimum staff.

(Source: Presidential Task Force Responsibilities (2020).

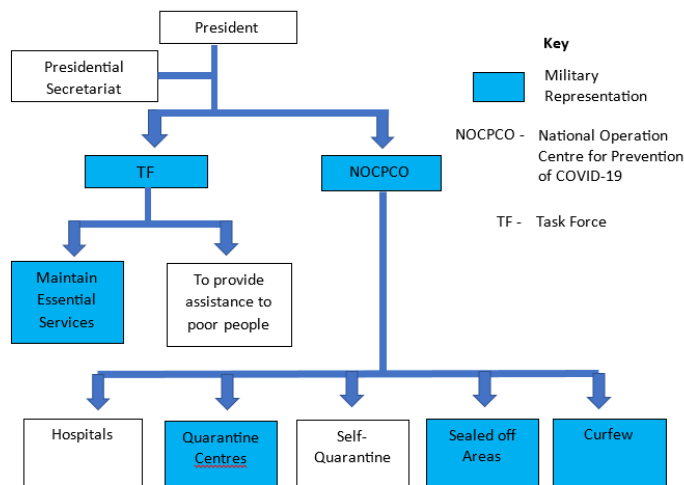


Fig. 3: Sri Lankan Model of Pandemic Management.

Source: Author (2023).

Analysis

The analysis is based on the initiatives taken by the GOSL to combat COVID-19 wave-1 in terms of urban planning. It also takes into account GOSL's success story during first 10 weeks of the pandemic (from the very first case reported on the 27th January, until 15th of April 2020), that reported 235 total confirmed cases and seven deaths. Another similar success story was found from a Central African country, Rwanda. Within the first five weeks (from its first case until 15th of April 2020) the country had reported 136 cases and 0 deaths. It is noteworthy to see that more or less the same control methods as Sri Lanka were applied in Rwanda with the military taking the lead. Moreover, the Rwandan president was an ex-army General, and senior army officials held most of the top positions in the country (Smith, 2021). Therefore, the predominantly military-led urban control system in Rwanda is an excellent example supporting the argument framed by this research, regarding the analogous approach by Sri Lanka.

The involvement of the military for combating COVID-19 depends on the policies of a given country. It could also be seen that most other countries also got their own militaries involved at some point for the process, but not from the beginning. The UK for instance, formed a 'COVID Support Force' (CSF), with 20,000 military personnel kept as a standby force (Ministry of Defence, 2020). South Korea according to Hur et al (2020) and Taiwan as per Wu (2020) also had successful military engagements against COVID-19. Other than that, the People's Liberation Army (PLA) of China also had a decisive role to play at Wuhan. The Central Military Commission's Joint Logistics Support Force based in Wuhan was also at the disposal of pandemic service. Moreover, military medical personnel were placed in Hubei Province to treat its coronavirus cases, from late-January 2020 onwards (Bommakanti, 2020). However, it could be argued that China's military involvement was also rather delayed. Myanmar and Indonesia, as highly militarized countries, also had taken measures to involve their own militaries in the fight against the coronavirus (Graham, 2020). In contrast, as a successful case, Singapore did not use its military at all in front lines to combat the virus (Vidyarthi et al., 2020).

As the most affected country by 28th of December 2020, the USA's military involvement is worth considering. The US always believes that soldiers make bad police officers. The common belief is that since the police are relatively less armed, they are more equipped to protect citizens. The central government is also suspicious about the fact that if the public would view highly-armed Soldiers as a threat (Campbell and Campbell, 2010). With such a backdrop, the less-armed National Guards were also deployed in limited numbers in the US. As of 17th of March 2020, a few governors (including ones of Colorado, New York, Maryland and West Virginia) in fact called for National Guard personnel on duty (Cancian, 2020). However, by 28th December 2020, the governors of all US states had called their National Guards for combating COVID-19 (Congressional Research Service, 2021).

According to the research by the Institute of Certified Management Accountants (ICMA) based in Australia, by 15th of April 2020, Sri Lanka was placed 9th in the world rankings, based on the response and leadership towards combating COVID-19 (cmaaustralia.edu.au, 2020). The aforesaid publication was aimed at developing a Global Response to Infectious Diseases – an index to indicate the effectiveness and efficiency of the chief executive of a given country and its preparedness in terms of its health system. Although the Chinese 4Cs model was considered for this study, it could be argued that it may not be suitable to every part of the world. This argument was raised by Fanelli and Piazza (2020) in their comparative analysis of China, Italy, and France. According to their report, many cultural and lifestyle factors influence the infection as well as spreading rate in a given place. Further to that, average age (as elderly population was badly affected) and their health condition are also considered as practical factors deciding the death rate. The arguments made here are meant to clearly understand the successful initiatives and results of the early involvement of military forces to combat the COVID-19 wave-1 in many parts of the world, using urban management. Therefore, the successful military-led wave-1 control of the coronavirus in Sri Lanka is an excellent example that can be used to alter the typical urban management processes in places around the world.

Suggestions for Present/Future

Present Pandemic Situation

It appears that the countries that are in the first two Cs of WHO's 4C actions (*i.e.* Countries with no cases, Countries with the first few cases) can directly use the predominantly military-led Sri Lankan urban management system to combat pandemics. In that case, the threefold Chinese system (involving source control, spread control and virus tracing) can be

utilized. Therefore, the following actions related to military-led urban management initiatives are recommended in particular:

- a) Establishing a COVID-19 Control Centre to monitor virus-related cases with military personnel.
- b) Establish a Task Force to maintain essential services to the country.
- c) Utilize a sufficient number of police and military personnel to control unnecessary public movements.
- d) Prepare military bases as quarantine centres.
- e) Establishing a separate unit (Including military/police intelligence) to trace contacts of infected patients.

The countries that are in the 3rd C of WHO's 4C actions (Countries with first clusters) can opt for isolating the same by using the prescribed 'sealed-off' method. However, the proper identification of clusters is vital at this stage (WHO, 2020a).

Future Pandemic Situations

The urban planning process should consider military personnel and infrastructure associated with them in any given city/country at large. Every country should focus on an emergency security mechanism to cater to any health situation such as the coronavirus pandemic. Therefore, that mechanism should focus on proper coordination between the military, police and relevant health units. With that, an effective and sustainable service could be established without delay. The same mechanism can be potentially adapted for the management of other types of disasters.

Conclusion

COVID-19 has been identified as one of the deadliest viruses to strike throughout human history. Its human-to-human transmission was considered the most dangerous aspect of it. During the outbreak, the general public throughout the world was losing its sense of security. Therefore, a more suitable system of combating the COVID-19 pandemic was discussed to bolster the diminishing sense of security by local populations. Hence, a predominantly military-led method of tackling the crisis in terms of an effective urban management process was discussed.

Further, the successful strategies employed by the Sri Lankan military and police were also presented. Consequently, after five weeks from the first reported local case, the country had less than 250 reported cases during wave-1. Further, the urban management process in day-to-day use was shut down, and a temporary military-led urban management process was implemented with minimum disturbance to people. Moreover, the results of this new system were discussed against other comparative cases elsewhere in the world. Having done so, recommendations were made for present and future pandemic situations.

However, as the final remark, the discussed method is only applicable for the early stages of pandemic control of a given country, and will not be sustainable in the long run. The underlying reason behind this is that it is simply impossible to continue this method for years, financially. Finally, it is too early to make any premature conclusions related to the whole process, since the coronavirus is still evolving with variations/mutations.

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