Mitigating the Pandemonium of the Covid Pandemic: Critical Observations on Sri Lanka

Saman Nanayakkara
Department of Anaesthesiology and Critical Care, Faculty of Medicine, University of Peradeniya, Sri Lanka
Email: *nsaman@y7mail.com*

Abstract

Covid-19 emerged as a new epidemic in 2019 in Wuhan province in the Republic of China. In early 2020, the disease spread rapidly worldwide resulting it to be classified as a pandemic. This new disease is due to SARS-Cov2 virus and is a new challenge for the medical fraternity, world health authorities, all countries, to the society and every individual on earth. At present, the mortality of 2019-nCoV is 2.3%, compared with 9.6% of SARS and 34.4% of MERS epidemics as reported by WHO. SARS-Cov-2 is a very contagious disease spreading at an extremely rapid rate and has created turbulence in the world. It has led to closing down of all educational institutes, trade stalls, business organizations and government institutions. Social distancing has been maintained to break the chain of transmission of the virus, hence all social gatherings; parties, pilgrimages, weddings, funerals and religious functions have been cancelled. The public places of entertainment; parks, cinemas, theatres, beaches, restaurants, pubs and gymnasiums have been forced to close which has led to tremendous social distress. The low infection and low death rate of 0.29 per million in Sri Lanka is maintained throughout the country with the efforts to counteract the pandemic must be considered satisfactory. The attempts have been commended by those at the highest levels of the World Health Organisation, and the European Community Covid-19 monitoring agency. Sri Lanka mobilised the entire government workforce with police, military, state intelligence and civil service to boost the health services in combating the pandemic. Some of the drastic steps taken by Sri Lankan authorities were, early closure of airports, closing down of all government and non-government institutions, tracing of contacts and screening them for the disease, pre-emptive quarantining, locking down geographical pockets after diagnosing patients and imposing island wide curfew. We have experienced only the early stages of the calamity that the Corona virus has caused. It is very likely that its global impact will

escalate at an exponential pace over the next few weeks to months bringing a pandemic of social distress.

Keywords: Covid-19, Infection, Mortality, Pandemic, Social-distancing

Introduction

This article is based largely on my personal experiences gained in the course of performing my duties during the overarching health-care concern of the prevailing "Corona Pandemic", both as a member of the academic staff as well as a consultant of the Teaching Hospital linked to University of Peradeniya.

What is presented in this article is a grass-roots' perspective, empirical in content, set against general information extracted from several published sources. As a guide to the sequence in this narrative, what I have attempted is, first, to present a record of the exemplary guidance from our genuine religious leadership, of efficient management and orderly conduct of affairs of the country during calamitous times, of the selfless commitment of those, whose arduous responsibilities of enforcing and implementing policy decisions and strategies are adopted to combat the spreading virus, and, in general, of the successes achieved through all related efforts. The second part an impartial critique, devoid of condemnation, of disappointments and harmful impacts in the form of the occasional displays of errors of judgment, bigotry attributed to rigid sectarian interests, the seemingly irrepressible scenarios of chaos and confusion, senseless prejudice and obstruction, the disregard of the people's entitlements, the looming uncertainties, and the distraction of our people's attention, caused by the pandemic, to other matters of vital concern to the nation. There are significant lessons that could be drawn from both these sets of experiences. This discussion focuses on what happened over the first two and a half months of the pandemic in Sri Lanka that is from end of January to beginning of April 2020.

For those unfamiliar with the essential features of this calamity and with background affairs of Sri Lanka on which this documentation is focused,

it is prefaced with a very brief sketch of the pandemic and the context in which its advent and its penetration of most parts of have occurred.

Covid-19 pandemic: global and Sri Lankan trends

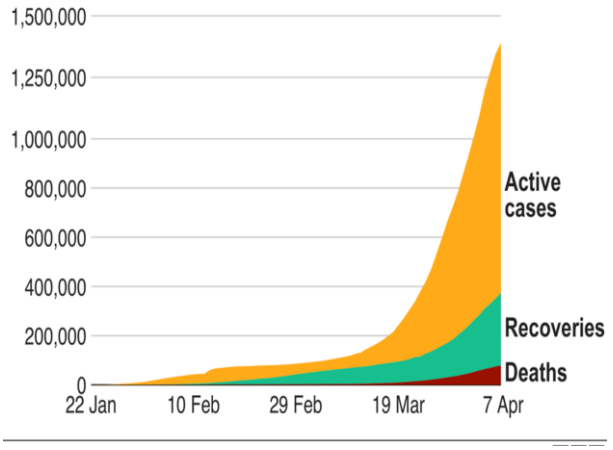
It is almost common knowledge that the term 'Corona Virus' refers to a group of viruses that infect humans and animals, and that the label 'SARS CoV-2' is attached to a recently identified and relatively more contagious pathogen in that group. At present, the mortality of 2019-nCoV in China is 2.3%, compared with 9.6% of SARS and 34.4% of MERS reported by WHO. (She et al, 2020).

There is a widely held belief that, as a serious disease-causing virus, COVID-19 was first publicly reported in Wuhan (capital city of the Province of Hubei in the Republic of China) on 31 December 2019 (WHO, 2020). The origin of the virus, which is out of the scope of my article is argued to be in china by western nations. On the other hand, China claims it to be a biological weapon of mass destruction produced by the United States or the Europe, and China blames a group of military personnel on a sports mission for transmitting it to Wuhan from USA. Whether the virus emerged due to accidental release from ostensibly well-meaning but dangerous researches on highly pathogenic organisms or due to a secret biological warfare act is not clear (Romeo, Quijano, 2020). However, it's infection soon began to spread in China at an exponential rate, assuming pandemic proportions, and infecting, well over a million people in more than two-hundred countries within the first three months. The signs and symptoms of SARS-CoV-2 induced COVID-19 are a bit similar to influenza and seasonal allergies due to pollen (Shereen et al, 2020).

By early April, the overall total number of deaths attributed to Covid-19 infection exceeded 50,000. These trends of morbidity and mortality still persist, with no downturn in sight both globally and within almost all states. The number of cases reported to date is likely to represent an underestimation of the true burden as a result of shortcomings in surveillance and diagnostic capacity affecting case ascertainment in both

high-resource and low-resource settings (Cohen and Kupferschmidt, 2020).

Figure 1: Global Scenario as on 7 April 2020



'Active' cases	1.391 million
'Recoveries'	296,000
Deaths	79,100

Source: Johns Hopkins University website

By the 27th of January, the so-called "Novel Corona Virus" as it was referred to at that time, had spread to 11 countries with 2,798 diagnosed cases and 80 deaths, yet only 3 outside China[3]. Meanwhile, at least by 2nd February, the World Health Organisation and its agencies had acquired a better understanding about the epidemic. For instance, the earlier belief that Covid-19 was transmitted from animals to humans, had given way to the concept of human-to-human transmission, and an incubation period of the virus in infected humans of 2-14 days contrary to the previous notion of 2-7 days, which meant that there would be a longer asymptomatic carrier period. I think certain uncertainties still remain about matters such as the need to wear protective masks, the preventive effectiveness of the masks and other possible preventive and curative medications.

The first victim of Covid-19 in Sri Lanka, a young woman from China on holiday– was reported on 27th January 2020. She was promptly admitted to the National Infectious Diseases Hospital (NIDH), and effectively treated. Her return to China was arranged in almost a ceremonial fashion by the minister of Health in the presence of the NIDH staff, which was more than a reiteration of the close and cordial relations that had prevailed between Sri Lanka and the People's Republic of China since the early 1950s.

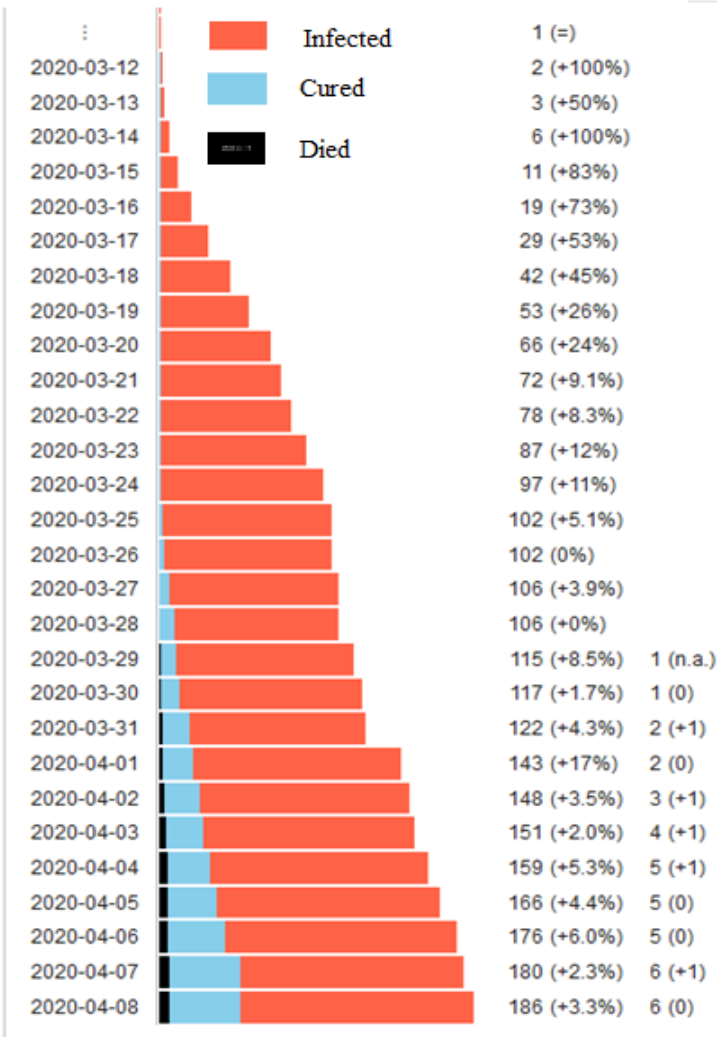
'Spring' in the early months of the year in Sri Lanka is a season of enchanting scenic splendour and with sunny climate but soothing radiance. It is a time of contentment, recreation and joy during which the inter-school sports contests are held, while millions of Buddhist devotees climb the summit of sacred peak Samanalakanda to worship the footprint of the Buddha, or visit historic temples such as those at Kelaniya, Gangaramaya (in Colombo), Mahiyangana, Dambulla and Anuradhapura in some of which colourful pageants are conducted every year.

Meanwhile, the Corona calamity in China was emerging as a disconcerting item of news in Sri Lanka, gradually replacing other media concerns such as malpractices of the previous regime, the arrogant disregard by the Swiss Embassy in Colombo of diplomatic norms between friendly countries, and the United States' pressures for acceptance by the Gotabhaya Rajapaksa-led government several draft agreements which, if ratified, could jeopardise Sri Lanka's rights as a sovereign nation-state. It was in this state of uncertainty in electoral politics that President, his inner circle of loyalists and his appointees to other key posts at the apex of government had to turn their attention to the Corona pandemic.

In this, they also had to face a series of overlapping impediments among which the most intractable were: (a) an economy more dependent than ever before on foreign trade & aid, and on tourism (Sri Lanka is ranked as the best destination for tourists in “Lonely Planet”) and remittances of earnings by the expatriate workforce, (b) a debt-ridden and plundered treasury, (c) the barely concealed hostility of the more formidable NATO

powers and their satellites, and (d) the economic havoc caused by the Covid-19 pandemic to Sri Lanka's genuine 'friends-in-need' - especially China.

Figure 2: Sri Lanka Covid-19 Scenario, Mid-March to early April 2020



Record of the Covid-19 Pandemic in Sri Lanka
mid March to early April 2020
Source: Ministry of Health, Sri Lanka

Source: Ministry of Health, Sri Lanka

On the 10th of February, there were only 14 suspected 'Corona' patients in quarantine, and only one confirmed case in Sri Lanka, against the backdrop of 37,558 quarantined, and 813 deaths worldwide. Despite those at the apex of government being overly concerned with their electoral aspirations, the authorities of the health services in Sri Lanka were getting their act together, albeit in piecemeal fashion. They established eleven hospitals especially manned and equipped to admit and treat suspected Corona patients. At the Colombo International Airport, thermal scanners and a 24 x 7 help-desk were installed. Data on all in-coming passengers were systematically documented. It was only by about mid-February that the government began to consider the looming Corona threat as being urgent enough to receive enhanced attention. The realisation dawned that, in the weeks ahead, many thousands of citizens living abroad as migrant workers or engaged in higher studies in countries severely affected by the pandemic would either seek to return or need to be brought back to Sri Lanka.

As portrayed above in Figure 2, it was in the second week of March that the perilous upsurge of Covid-19 really began. It indicated that Sri Lanka might plunge into a dreadful abyss similar to some of the most economically advanced and culturally alluring nation-states such as Italy, Spain and France, unless drastic controlling measures were soon adopted. Thus, acting with a sense of urgency, the government ordered the closure of universities, schools of all types, state sector institutions except those performing essential services. Gatherings were prohibited. Private entrepreneurs in retail trade were advised and, a few days later, ordered to engage in business only if and when curfew is lifted. Immigration via air ports and harbours was reduced in stages leading to an almost total ban on incoming air traffic by 17th of March 2020.

For conveying to the people, the government's advisory services aimed at curtaining the corona infection, since early March there has been a parade of diverse professionals repeating the same litany of advice on individual and collective safety measures that need to be adopted. The state sector telecommunication server installed a statement of advice from the Ministry of Health to broadcast along with the ringing tone of all

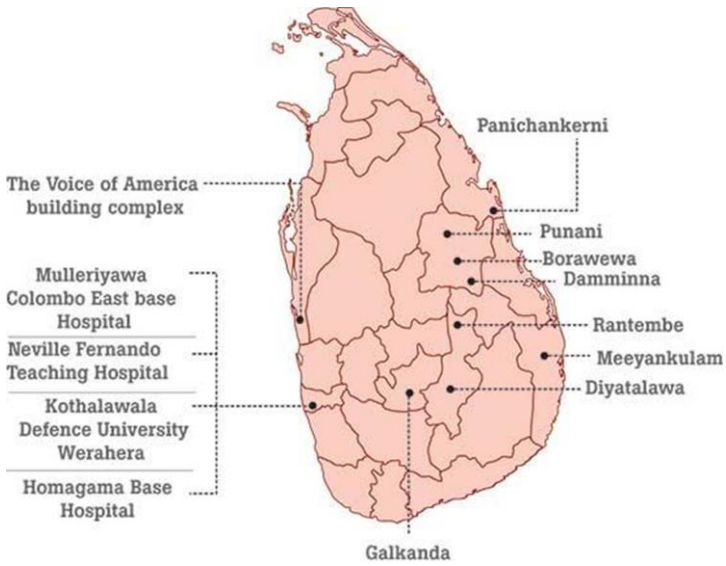
telephone calls, regarding protective measures to keep the virus away. Not to be outdone, private TV and radio channels have been devoting air time to handpicked experts for announcements and panel discussions on what people and the government ought to be doing.

The responses of the government through its medical and sanitary services adopted in mid-March were also prompt and, when contextualised in the prevailing resource scarcity, quite impressive. For example, the larger curative service outlets like hospitals installed a special 'help desk' for patients with Covid-19 symptoms for channelling them through special entrances directly to those desks. Later a national hotline was provided for suspected patients to reach the authorities before entering a hospital. Mini teaching and training sessions were held for emergency and critical care staff, and hospital space was made available to isolate suspected patients until they were transferred to the regional centre. Patients with Acute Respiratory' illnesses were screened with extra care before being admitted to ICUs. Respiratory physicians furnished daily updates to the ICU staff regarding such patients in their medical wards. Sinks with taps, soap/disinfectants were installed outside every hospital, shopping malls, and on streets. Large teams of sanitary & public health workers were mobilised for fumigating/decontaminating places at which the public needs to congregate for purposes of travel, or obtaining essential services. *'Teaching Hospitals'* at Kandy, Karapitiya, Anuradhapura, Kurunegala, Jaffna, Badulla, Ragama, Batticaloa, Ratnapura, Kalubowila, Castle Street (Colombo); *'Provincial General Hospital'* in Badulla; *'District General Hospitals'* at Gampaha, Negombo, Polonnaruwa, Kalutara, Chilaw, Matara and Vavuniya; *'Base Hospitals'* at Hambantota, Monaragala, Welikanda, Mulleriyawa, Homagama; the *'Chest Hospital'* at Welisara; and the recently acquired 'Dr. Neville Fernando Hospital' were made ready to handle Corona-infected patients.

The involvement of the security services in implementing a multitude of government decisions relating to the pandemic such as: (a) curfew restrictions, (b) bans on inter-district travel, (c) community-level isolations (by early April there were in all, 4 such localities), and (d) arresting and incarceration of curfew violators. More burdensome than all

else was their functions relating to the establishing of Quarantine Centres to accommodate all immigrants to Sri Lanka since early March, and providing their inmates all services (food, lodging, medical care) at a satisfactory level of comfort and well-being at such centres.

Figure 3: Covid-19 Quarantine Centres in Sri Lanka, (as in mid-March 2020)



More recently many other quarantine centres have been established, bringing the latest (April 8th) count to 59.

Source: *Daily Mirror* of 24 March 2020

The overall management of Quarantine measures were placed under General Shavendra Silva, the army commander and Chief of Defence Staff, who announced on 23rd March that quarantine centres have been established at *Pompemadu, Kandakadu, Punichchankerni, Meeyankulam, Boraweva, Gal-kanda, Punani, Kahagolla, Damminna, Rantambe* and a complex of venues at *Diyatalava* including twenty-three 'Holiday Homes' meant in normal times for commissioned officers. These were quite adequate to meet the needs and demands of those selected from an overall total of approximately 15,000 Sri Lankans who had arrived from abroad from the 1st to 15th March. The *Sunday Observer* of 16-03-2020

and the *Daily Mirror* of 24-03-2020 published articles based on field observations and interviews according to which those discharges after quarantine expressed satisfaction and gratitude about all aspects of their stay. Entrusting this enormous task to the armed forces, and the location of the Quarantine Centres that had been established represent rational decisions considering: (a) the fact that those in charge of such centres were required to cater to the needs and demands of a wide spectrum of social classes and, (b) as many such centres as possible had to be located in areas of relatively sparse population.

Edifying experiences and achievements

Epitomising a prominent feature of the unique cultural heritage of Sri Lanka, the venerated prelates of all main religious faiths in the country made profound efforts to enhance the amity and concord among the people, especially in the nation's combat against the Covid-19 invasion. Moreover, the most venerable chief incumbents of the three Buddhist *Nikāya* (sects) issued a joint statement advising people to refrain from congregating at any of their shrines for performing devotional rituals. The prelates of *Malwatta* and *Asgiriya* temples, the pinnacle of Sri Lanka's *Sangha* order, conducted a series of exemplary devotional ceremonies, chanting the *Rathana Sūtra* at the sacred 'Temple of the Tooth Relic' in Kandy to invoke blessings and protection of the people from the virulent pandemic, thus following primordial Buddhist traditions dating back to the time of the Buddha. Even before the arrival of the infection to Sri Lanka, similar rites were conducted by the *Sangha* countrywide at their shrines for the benefit of Covid-19 victims in the world. His Eminence, Cardinal Malcolm Ranjith, who has, over several years been at the vanguard of efforts at promoting inter-religious amity, announced a decision to suspend church gatherings not only for Sunday divine worship, but for any other purpose, prioritising the need for safety of the people above all else. Prelates and leaders of other Christian denominations, the Muslims and the Hindus advocated similar precautionary measures. For their leadership and guidance, and the appeals they made in unison to the people, the entire nation owes them worshipful homage.

Sri Lanka has a longer tradition of commitment to government-sponsored social welfare, especially those of health-care, education and poverty alleviation, even at the expanse of retarding economic growth. Thus, it was no surprise that the government promptly channelled the bulk of resources at its disposal to protect the people from the deadly pandemic. In implementing the related measures, it encountered, apart from the general impediments referred to at the outset of this study, other formidable problems such as: (a) the presence of a large number of tourists in Sri Lanka, this being the height of the country's tourist season, and (b) the inadequacy of the required professional expertise to handle the unprecedented crisis which the pandemic created. In consequence, especially during the early stages of the Covid-19 outbreak, decision-makers at the highest levels of government had to learn through trial and error, seemingly relying on personal loyalty of their advisors rather than their professional expertise. These loyalists and the advice they have given do not appear to have been far off the mark regarding immediate necessities, especially if one were to judge on the basis of the dictum that "it is better to err on the safe side".

In statistical tables and graphs such as those presented above as Figures 1 and 2 which depict Covid-19 morbidity and mortality rates, Sri Lanka has hitherto been placed among the countries least affected by the pandemic. The inter-country comparisons based on raw aggregate enumerations, however, contain distortions of the real intensity of impact of Covid-19. Overlooking unknown distortions due to under-reporting especially in remote and poverty-stricken parts of countries like India, Pakistan and Indonesia about which nothing could be done in statistical analysis, it is possible to adjust national totals per capita values for the necessary comparisons, as done in compiling the following Table.

Table 01: Selected estimates of Corona-related morbidity & mortality

World/selected country	Total Population (in millions)	Reported Infections per one million of population	Reported Deaths per one million of population
World	7,776	193.61	11.49
India	1,390	4.23	0.12
Pakistan	221	19.48	0.28
Bangladesh	165	1.24	0.10
Indonesia	274	10.89	0.85
Thailand	70	32.41	1.16
Malaysia	32	129.16	0.53
Sri Lanka	21	9.14	0.29

Note: There is a likelihood of the estimates on the large countries being adversely affected by under-reporting. Sri Lanka values are probably the least distorted among these estimates.

Source: These estimates are based on data extracted from *worldometer*[1] which publishes daily updated values as published on for 8 April 2020.

When set against the backdrop of my earlier observations on Sri Lanka's excessive locational, economic and cultural exposure to the world outside, the low infection and death rate per million of people (Table:1) that has hitherto been maintained through the country's efforts to counteract the pandemic must be considered satisfactory. It has, indeed, been commended by those at the highest levels of the World Health Organisation, and the European Community Covid-19 monitoring agency.

[1] worldometer, available at: https://www.worldometers.info

There is reason to state that those responsible at all levels of governance for the aforesaid achievement **(**policy makers, implementing agencies, especially the truly heroic and selfless healthcare staff of the Ministry of Health, led by its dynamic Minister known until the recent past mainly as a forceful platform performer at political rallies, but now being admired for her exemplary management of the second largest workforce in the state sector, police and tri forces**)** deserve the nations gratitude. From such a perspective we need to note that Sri Lanka has avoided the type of public pandemonium and collective despair witnessed in some of the most affluent countries of the world despite their possessing an abundance of resources including those of health-care technology. In addition, the performance by our security forces demonstrate how and why they won the "unwinnable war" against the LTTE (as it was described by military experts) within the framework of the same humane paradigms as their co-workers in health-care.

According to a recent World Bank estimate, the Corona pandemic will push at least about 500 million people worldwide (i.e. roughly 7% of the global population) into a state of acute poverty and destitution. It is hard to think that Sri Lanka will be spared a process of impoverishment of similar magnitude, given the essential features of the economy and the predicted economic recession in our foreign markets and sources of aid. It is with these considerations in mind that we need to evaluate the relief measures of the government targeted at the low-income segments of the population. Initially, the various macroeconomic fiscal concessions granted by the government in order to reduce the spiralling cost of living and to ease the burden of those indebted to banks and finance companies had, at best, only a marginal impact. Imposing price controls of essential consumer goods, distribution of dry rations among the poor, *Samurdhi* Programme payments etc. did not appear sufficiently effective. But, in the very recent past, there have been signs of improvement in some of these direct poverty-alleviation efforts. The President proposed the establishment of a SAARC Fund to combat Covid-19 in the region, and donated US$ 5 million to that fund. That, I wish to state, was a gesture in vain. His establishment of the “Covid-19 Healthcare and Social Security

Fund" and inviting local and foreign donors to contribute to the fund seems (from the related media publicity) to have evoked tangible responses. In addition, several popular electronic media firms have stepped into organised activities of 'charity', presumably intending to supplement similar government-sponsored programmes, especially by way of filling gaps and shortfalls, while competitively enhancing their own popularity.

Our gratitude should also be offered to the President and the Prime Minister for their humanitarian actions towards rescuing groups of their citizens who were entrapped abroad. A bold airborne operation manned courageous volunteers from 'Sri Lankan Airlines' was launched to bring back such students from the pandemic epicentre of Wuhan. The scatter of Sri Lankan pilgrims during the 'shutdown' of India has also been delivered to their respective homes following the necessary quarantine procedures. Responding to a presidential request, the Navy engaged in an off-shore operation involving the transfer of a Sri Lankan employee of that liner who had made a desperate appeal to be saved from his ordeal, and an aged German national requiring urgent medical treatment from the luxury cruise ship *Magnifica* which was on its way from Australia to Italy. Within Sri Lanka, there have been showing innumerable humanitarian gestures towards the destitute, aged, and the infirm, a few of which have received passing notice in news broadcasts.

Disappointments and negative impacts

The appeals by our religious leaders referred to in the previous section of this study, despite their salutary impact by way of avoiding congregations of devotees, have been somewhat less successful in bringing about inter-religion unity and cooperation in the common cause of combating Covid-19. The candour I attempt to maintain in this study does not permit me to bypass in silence the resonance of the impact of Islamic fundamentalist groups in several countries such as Pakistan, India, Malaysia and Indonesia proclaiming their conviction that obedience to Allah overrides the laws imposed by governments (reported recently by the Singapore-based *Channel News Asia*). In Sri Lanka, there was, for instance, a scatter of protests against the government ordering to close the doors of

mosques, police action against Muslim violators of curfew supposedly in the course of attending 'Friday Prayers'. With somewhat greater focus, certain leaders of the Muslim community have protested the cremation of Muslims who had died of Corona infection. But what causes more concern than all is an attempt by former Member of Parliament Rauff Hakeem (leader of the 'Sri Lanka Muslim Congress') to elevate this issue to cause national disputes at a forum to which leaders of all political parties had been invited by the President. Objecting to the ban on disposing Corona-infected corpses at crematoria bypassing the traditional Islamic burial rites, he argued that even the WHO has made an announcement describing that a buried corpse cannot be a source of infection. Needless to say, Hon. Hakeem refrained from mentioning that traditional Muslim burial rites involve, among other things, washing and wrapping the corpse in a shroud and laying the corpse in a coffin provided by the mosque repeatedly used on such occasions, and carrying the corpse to the cemetery along public roads in a procession of chanting which (during the present pandemic) would cause intense consternation among road-side dwellers. Quite obviously, this politician was addressing, not those present at the forum, but his community, in an attempt to regain his eroded electoral popularity with a rant of bigotry.

In the early stages of Covid-19 proceedings, a wide publicity was given in the media to the supposed origin of the pandemic in China. Likewise, as some of the precautionary measures being implemented in the first few weeks of March also received media coverage, there developed an irrational fear that the Chinese were responsible for the advent of this disease to Sri Lanka. This, in certain localities turned into demented mob reactions against the presence of all Chinese and, indeed, of everyone with 'Mongoloid' physical traits. Once, a group of Bhutanese medical undergraduates of University of Peradeniya were boarded on a bus, other passengers howled saying that, they must be infected with Corona virus. In the major centres of tourism there were instances of hoteliers and restaurateurs refusing to host those who looked like Chinese, no matter where they come from. These xenophobic hostilities could well have been instigated by those opposed to the fairly large presence of Chinese workers in Sri Lanka in China-aided development projects, and to the

strengthening bonds between the two countries. This phenomenon has dissipated since that time.

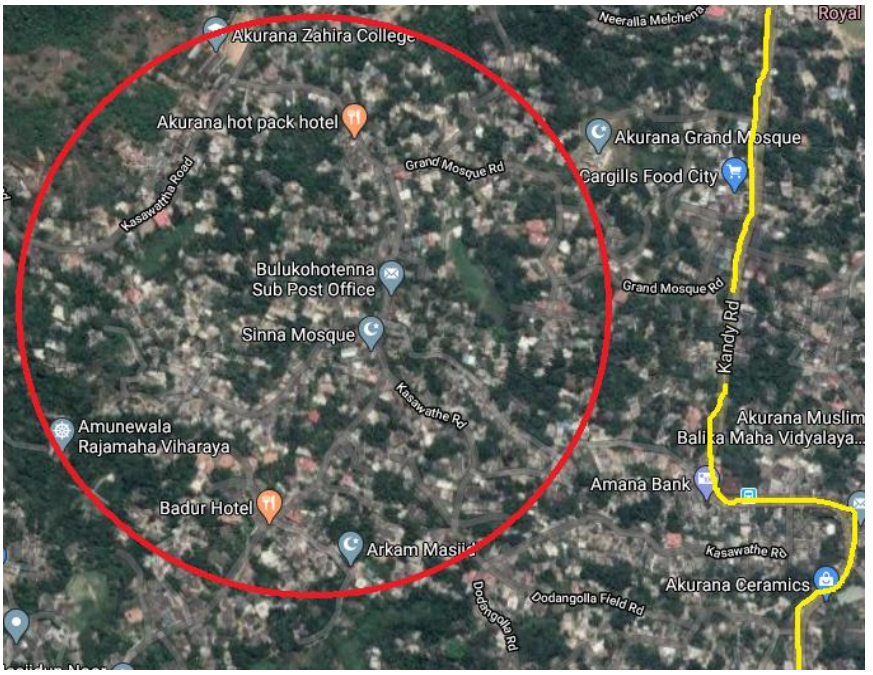
To turn now to Sri Lanka's comparative level of success in controlling the pandemic, there is the 'flip side of the coin' of utmost relevance that must also be borne in mind. In many of the more contagious viral infections, past trends and international comparisons thereof fail to provide an adequate basis for predictions. Nevertheless, they receive wide media publicity and sometimes serve as 'expert inputs' for policy-making in matters such as the imposition of curfew restrictions or organising relief measures. What should hence be emphasised is that Sri Lanka, along with other nation-states, will be venturing into an unknown in the weeks and months ahead, at least until a proven system of vaccination is found, produced in adequate amounts, and distributed worldwide at an affordable price.

The foregoing observations do not constitute a denial of the fact that there have been, at least from about the mid-19th century, several theoretical postulates ('Statistical Models') applied to the study of diffusion of disease-causing pathogens that engender epidemics. The more recent among the studies of this genre have involved computerised analysis of a mass of empirical information of the type which, unfortunately, is just not available for any country; leave Sri Lanka alone, on the prevailing pandemic.

There could hardly be any doubt or dispute on restrictions that have been imposed on inter-district travel and transport of goods within the country and in the form of selectively imposed curfews from about mid-March 2020 in the early stages of the Covid-19 menace in the island have had the desired impact of retarding the rate of increase of the pandemic. That they represent measures reluctantly adopted in the interest of the people is also universally accepted. Yet, there are certain questionable features in their specific modalities –those relating to the use of the district spatial frame, the intervals in the curfew calendar, and other specificities of the related regulations– that need to be raised, and on which clarifications must be sought.

To illustrate, Kandy District (7% of the country's population & 1,940 km^2) was placed in the category of "high risk districts" when two persons living in the bustling township of Akurana (about 8-9 km to the north of Kandy City) tested Covid-19 positive. The dispatch of 144 persons to the Quarantine Camp at Punani, those who had associated with the infected persons, and the total closure of several *Grama Niladhari Divisions* (GN/village officer) extending over the urbanised parts of the Akurana Divisional Secretary Area were measures, immediately implemented. Meanwhile the district's total number of corona-infected persons increased to 7. Detailed information obtained from the "locked down and isolated" parts of Akurana indicates that all 7 infected persons were inhabitants of two localities within the GN areas of Bulukohotenna and Kasawatta (named in Figure 4), each of which has a resident population of about 2,500.

Figure 4: Bulukohotenna & Kasawatta GN areas are located to the east of the Kandy-Matale highway, less than 1/2 km from the Akurana Grand Mosque



Source: Google maps

The questionable (but not necessarily disputable) aspects of the aforesaid official responses to the Akurana calamity may be rendered as follows:

- Were there alternative modalities that could have been adopted at the town of Akurana where a total shutdown and isolation were already in force?
- In the context of the fact that the sealing-off and isolating Akurana was to remain indefinitely, was there a genuine need to clamp down a never-ending curfew over the entire district of Kandy, placing it among the "high risk" parts of the island? In doing so, did the authorities take a close look at the spatial configuration of Akurana vis-a-vis 'non-high risk' adjacent districts such as Kurunegala and Matale, and compare the same in relation to, say, Ganga Ihala Korale or Pasbage Korale tea plantation Divisions of Kandy District before making such a drastic decision?
- It is true that there are several fairly large Muslim communities around the city of Kandy among which Akurana is the largest. Was that the reason for the belief that the entire district is at "high risk"?
- Likewise, in a wider context, there is reason to question the rationale of enforcing a ban on inter-district travel and conveyance of goods. Satellite imagery and recently published maps indicate that there are 6 inter-district highways, at least about 18 other roads of the 'B' category, and innumerable minor roads that are motorable, traversing the boundaries of this district. If the transport ban referred to is to be genuinely enforced round-the-clock, all over the country, it requires the services of a large contingent of security personnel distributed and placed at a very large number of points along inter-district boundaries. This, in turn, raises several issues, the most significant among which is whether the security manpower employed for the inter-district transport ban could be mobilised for more effective action in the isolation and the provision of various essential services in and around the sealed-off communities such as these Akurana,

Atalogama (Kalutara District), Kadayankulam (Puttalam District), Suduwella (Gampaha District), and several localities in Ratnapura District? Such an alternative strategy, adopted as an option to installing the patently ridiculous inter-district barriers, might have been more effective, less costly and, above all, far less burdensome for the people at large. The authorities, especially those at the highest levels, must realise two basic realities – one, that there is seething anger among the people for the hardships they suffer during any major hazard, and a tendency among them to hold the government responsible for their suffering; and the other, the repeated mass media incantation that everything is done in utmost benevolence in order to protect the people from the pestilential Corona virus is fast becoming less effective.

Direct poverty alleviation has hardly ever been comprehensively effective anywhere in the world. In calamitous circumstances such as those prevailing at present, the inadequacy of the offers, the targeting errors, and malpractices such as favouritism and discrimination in the chains of implementation tend to nullify preventive and corrective measures which the ultra-poor observe, but are compelled to suffer in silence.

The restriction of the people's access to retail sales outlets of medicines in the early stages of the government's anti-Covid-19 drive, and the blatant disregard of the patients' needs by the state-sector *Osu Sala* network of drugs and pharmaceuticals, were tantamount to criminal callousness. Was this deliberate sabotage? Redeemingly, the blunder of compelling private pharmacies to close down has been somewhat belatedly rectified. The announced system of postal delivery of medicines could be no more than a massive farce in the well-known context of the fact that even in 'middle class' residential localities of towns like Kandy, postal delivery is excessively erratic even at normal times.

The restriction of patients' direct access to curative health-care outlets was an unavoidable measure that had to be adopted considering both

excessive overcrowding of 'out patients' at the hospital premises as well as the virulence of Covid-19. Yet, there was the possibility of installing (at the vacant school and university premises, for instance) temporary screening procedures manned by relatively junior doctors (which is often what really happens to 'First Visit' clinical patients at hospitals), and intensively supervised by security personnel to ensure prevention of the usual scramble - a duty which the police perform quite efficiently at urban supermarkets.

Finally, there are the massive inadequacies in certain responses of people of Sri Lanka to the government's efforts to improve safety precautions in their behaviour, avoiding scramble at the large open-market venues such as those of the Central Market in Kandy and Manning Market in Colombo. What we need to remember in this context is that voluntary formation of queues when passengers are boarded on trains and buses, clients engaging in administrative transactions, or bargain-hunters at 'clearance sales', survival-of-the-fittest is the behavioural norm in some cultures. Thus, the inculcation of practices such as maintenance of the prescribed minimum of one-metre interpersonal distances, wearing protective masks and coughing and sneezing towards one's own breast and armpit, need to be 'policed'. Moreover, the defiance of curfew restrictions in the form of outdoor frolics and partying or daredevil one-upmanship at highway checkpoints, though infrequent, have not been eliminated, despite well over 26,000 arrests and incarcerations of the culprits within about 3 weeks. A management-level employee of a Cooperative Wholesale Establishment who had pilfered a large stock of consumer items from the sales department where he works, was apprehended by the police. A few instances of hoarding and profiteering by tradesmen have been detected and exposed. These retail market malpractices, however, seem less frequent in occurrence now than they were in certain spells of natural disasters of the past probably due to greater police vigilance.

The Institute of Certified Management Accountants (Australia) commissioned a research study to evaluate the response and leadership shown in each country and to develop a Global Response to

Infectious Diseases (GRID^{TM}) index to indicate how efficient and effective the leadership of the country and the preparedness of its health system were in tackling this pandemic. The ICMA was of the view that a country's ranking on the index could be a motivator to a country in terms of being prepared for the next global pandemic or crisis (Alahakoon, 2020)

Global Health Review 2020 says,

> "As the origin of the novel coronavirus in Wuhan was announced, Sri Lankan authorities started to take vigilance in stopping the potential danger. The military forces and the national intelligence service were put on high alert. The government created specialized aviation and border control expert teams, to track the movement of all inbound tourists and with a potential threat. Sri Lanka was one of the first countries to send rescue missions to Wuhan to evacuate 33 Sri Lankan families. The families were brought down via an exclusive carrier and quarantined in a unique quarantine military facility. All potential contacts were observed continuously under quarantine. Those in the military facility were given full access to information; and there was no government control of information, hence increasing its reliability." (Alahakoon, 2020)

This explains the reason, why although Sri Lanka is placed at the 93rd place in the Corruption Perceptions Index (CPI) rank; it is ranked 10th on the GRID Index (2020)[2] alongside countries such as Hong Kong and Taiwan. Global Health Review 2020 continues to say that, the reason why Sri Lanka responded so well is because Sri Lanka has a public health system which is free for all citizens. Going hand in hand, Sri Lanka has had a free education system until graduate school for the last 60 years; thanks to which it has trained thousands of well-qualified healthcare professionals and paramedical workforce for many decades through well-

[2] D'Souza, C. (2020). GRID Index: Tracking the Global Leadership Response in the COVID-19 Crisis (2020), *CMA: Australia*

regulated state medical faculties and other training institutions covering all regions of the country; all free of charge. The doctors and paramedical staff receive post-graduate training and continuous medical education throughout their career. The island nation also has a robust century-old community health program. Health statistics such as maternal and child mortality rates are the lowest in the region. In fact, comparable to the western world, the life expectancy in Sri Lanka is highest in the region. The nation is 100% vaccination covered, and all treatment under the Extended Program of Immunization are administered free of charge. (Alahakoon, 2020).

There are striking differences in some of the drastic steps that have been taken by the Sri Lankan authorities for controlling the epidemic. First, screening suspected patients and members of the community who has no symptoms but are first and second contacts of Covid-19 patients. Thus, in contrast to what is practiced in some of the developed countries, where patients with severe symptoms are screened, our strategy increases the chances of detecting Covid positive patients earlier and that in turn facilitates isolating them quite early.

Second, there is pre-emptive isolation and pre-emptive quarantining as opposed to isolating people who become positive for Covid. This is done for primary contacts and secondary contacts of Covid positive patients. This led to finding more positives from quarantined persons than from community screening. Most part of the quarantining was done in specially prepared quarantine stations. Although this measure is expensive, it has proven to worth the cost compared to self-quarantining at home because health authorities have a relatively poor control over movements of people in whom Covid is suspected.

Third, admitting all positive patients immediately to specialists' led hospitals has helped in restricting the spread. This paved the way to minimize morbidity and mortality due to illness and at the same time helped to prevent further spread of infection. Most of the developed countries admit patients to hospitals only when the patient is seriously ill, especially when there is respiratory distress. With that method, apart

from the patient being a source for spread of infection, there have been delays in attending to acute illnesses. For an example, the local outbreak in Akurana, in Kandy district, was immediately controlled by sending off the patients to NHID and mobilizing 144 close contacts to Punani quarantine camp.

Fourth, all hospitals which were not regional centres for treating Covid patients had designated areas for isolating suspicious patients until results of the screening tests were available. No sooner the screening test becomes positive, the patients are dispatched to the specialized centres with critical care facilities.

The fifth point is the use of police, military and the state intelligence services to trace contacts who had associations with Covid positive patients. This is an immense boost for the primary health care staff to track contacts. Some of the developed countries use the military only for crowd controlling and maintenance of curfew.

Finally, once a patient becomes positive for the infection, 'locking down' areas with total severing of contact with outside, imposing curfew in the whole district and banning inter-district travelling helped to localize the outbreak to a geographical pocket. Although it is a tough measure to keep the whole country locked down, it obviously has retarded the upsurge of new cases and helped to flatten the peak of infection. A good example again is Akurana, where two patients were discovered with 4 more of his contacts, who were isolated for being positive, where by that time the whole area was already locked down. As soon as the four contacts became positive, another 144 people whom they associated were transferred to a quarantine centre in Punani. This highlights the situation today, how after two weeks into locking down Akurana and imposing curfew in the whole district, not a single case of Covid positive patients has been detected in the entire district of Kandy.

Early travel bans and closure of entry points to the country protected the country from influx of patients. For example, disembarking from several

countries was banned on 13th of March, while the Jaffna and Bandaranayake International Airports were closed on the 15th and 17th of March 2020 respectively.

Curfew and banning internal travel helped to protect the high-risk population like elderly, children, pregnant women and the feeble, being exposed to the infection. In the developed world, such restrictions were minimal, where the elderly population got exposed to the illness at an early stage of the outbreak and succumbed. Also, a large number of elderly are concentrated in elders' homes, retirement villages and elders' hostels where spreading of infection in the vulnerable elderly group is easier once a single person contracts the disease.

Some of the more affluent nations' strategy of performing screening tests only on symptomatic patients, and then isolating only Covid positives out of them; and allowing admission to hospital only when the patient is seriously ill with a respiratory distress has proven to be disastrous, by looking back at the number of new cases detected and the high morbidity and mortality. Their numbers of new cases and the deaths have to be weighed against the availability of resources and the country's wealth, per capita income etc. Their strategy exhausted the available resources, causing thousands of patients to be nursed at home, hundreds of patients to stay in the compounds and gardens of hospitals awaiting a bed in the hospital while the morgues and crematoria were being overwhelmed with corpses.

Some of the developed countries have not seemed to have utilized primary health services maximally but relied on hospitals for curative services. In Sri Lanka, the whole government machinery from *Grama Niladhari*, Divisional secretaries and their office staff, Public Health Inspector, local policemen, postmen, tri forces, state intelligence service, telecommunication services, television and radio services to hospital staff led by specialists have been mobilized against the pandemic. This explains how and why the country now being in the second month of the battle against the virus, has displayed outstanding results with a

remarkably low death rate of 0.29 per million, compared to countries with higher GDPs.

Although United States implemented a lockdown for a brief period, the government had to lift it due to protests by the citizens and thereafter for a large part during the pandemic there were no curfews or strict lockdowns in the United States. A telephone interview with Dr. Nirmala Wijerathna (MD), Internal Medicine, Primary Care, Reliant Medical Group, Framingham, Massachusetts, USA revealed, that there is no curfew in Massachusetts and there is no "lock down". There is only an order to "stay at home" with Universities, schools, supermarkets, restaurants, gymnasiums, child care centres and groom care centres are closed. All other sales centres are open including grocery stores, baker's and even shops selling guns and electronic items. Hence people roam freely and there is no screening of the community or contacts for Covid positive patients. Suspected patients are advised to undergo self-quarantining at home and patients are admitted to hospitals when they are in respiratory distress or when they are hypoxic. Situation is more or less the same in England and other European countries.

In the absence of any pharmaceutical intervention, the only strategy against COVID-19 is to reduce mixing of susceptible and infectious people through early ascertainment of cases or reduction of contact. In *The Lancet Infectious Diseases*, Joel Koo and colleagues assessed the potential effect of such social distancing interventions on SARS-CoV-2 spread and COVID-19 burden in Singapore. The context is worthy of study, since Singapore was among the first settings to report imported cases, and has so far succeeded in preventing community spread (Koo et al., 2020)

During the 2003 severe acute respiratory syndrome coronavirus (SARS-CoV) outbreak in Singapore, numerous non-pharmaceutical interventions were implemented successfully, including effective triage and infection control measures in health-care settings, isolation and quarantine of patients with SARS and their contacts, and mass screening of school-

aged children for febrile illness. Each of these measures represented an escalation of typical public health action (Tan, 2006).

However, the scale and disruptive impact of these interventions in Singapore were small compared with the measures that have been implemented in China in response to COVID-19, including closure of schools, workplaces, roads, and transit systems; cancellation of public gatherings; mandatory quarantine of uninfected people without known exposure to SARS-CoV-2; and large-scale electronic surveillance (Kupferschmidt and Cohen, 2020a,b). Although these actions have been praised by WHO, (Kupferschmidt and Cohen, 2020a) the possibility of imposing similar measures in other countries raises important questions. For a novel pathogen such as SARS-CoV-2, mathematical modelling of transmission under differing scenarios is the only viable and timely method to generate such evidence (Lewnard and Lo, 2020). Koo and colleagues (2020) adapted an existing influenza epidemic simulation model for Singapore, a combined intervention, in which quarantine, school closure, and workplace distancing were implemented, was the most effective. Compared with the baseline scenario of no interventions, the combined intervention reduced the estimated median number of infections by 99·3% (IQR 92·6–99·9) when R_0 was 1·5, by 93·0% (81·5–99·7) when R_0 was 2·0, and by 78·2% (59·0–94·4) when R_0 was 2·5. The observation that the greatest reduction in COVID-19 cases was achieved under the combined intervention is not surprising. However, the assessment of the additional benefit of each intervention, when implemented in combination, offers valuable insight. Since each approach individually will result in considerable societal disruption, it is important to understand the extent of intervention needed to reduce transmission and disease burden (Chao, et al., 2010)

Although data on the proportion of infections that are asymptomatic are scarce; as shown by Koo and colleagues in sensitivity analyses with higher asymptomatic proportions, this value will influence the effectiveness of social-distancing interventions. New findings emerge daily about transmission routes and the clinical profile of SARS-CoV-2,

including the substantially underestimated rate of infection among children (Bi et al., 2020). Although, the scientific basis for these interventions might be robust, ethical considerations are multifaceted (Gonsalves, et al, 2020)

Importantly, political leaders must enact quarantine and social-distancing policies that are not biased against any population group. The legacies of social and economic injustices perpetrated in the name of public health have lasting repercussions (Kass, 2001).

When Corona pandemic struck, Sri Lanka's economy was in a rather unstable position with a growth of 2.6%, the lowest compared to past three decades. Tourism industry had a double blow, one after the other, Easter attack last April and Covid epidemic in January this year. With income from tourism falling to zero with no signs of it gaining momentum within the next four to six months, country's exports coming to a standstill, debt defaults will worsen. Police curfew, social distancing, isolation, quarantining hundreds of contact persons of positive patients, basically reducing human activities and movements will reduce the spreading of the infection but at risk of flattening the economy. Meanwhile the Sri Lankan government is under tremendous pressure from United States to finalise the Millennium Challenge Corporation (MCC) agreement and due to a predicted financial crisis due to Corona catastrophe. Country is run by an interim government with no proper budgetary allocations for a smooth maintenance of the state. In all likelihood the general elections will not be held for another few weeks and even a restricted acceptance of Millennium Challenge Corporation (MCC) will deny a major victory for Gotabhaya Rajapaksa led coalition.

There will be difficulties in controlling the pandemic in the face of globalization, increased travel, tourism and trade. Global economic impact of Covid-19 may far outreach previous global economic regressions. We have experienced only the early stages of the calamity that Corona virus has caused. It is very likely that its global impact will escalate at an exponential pace over the next few weeks to months,

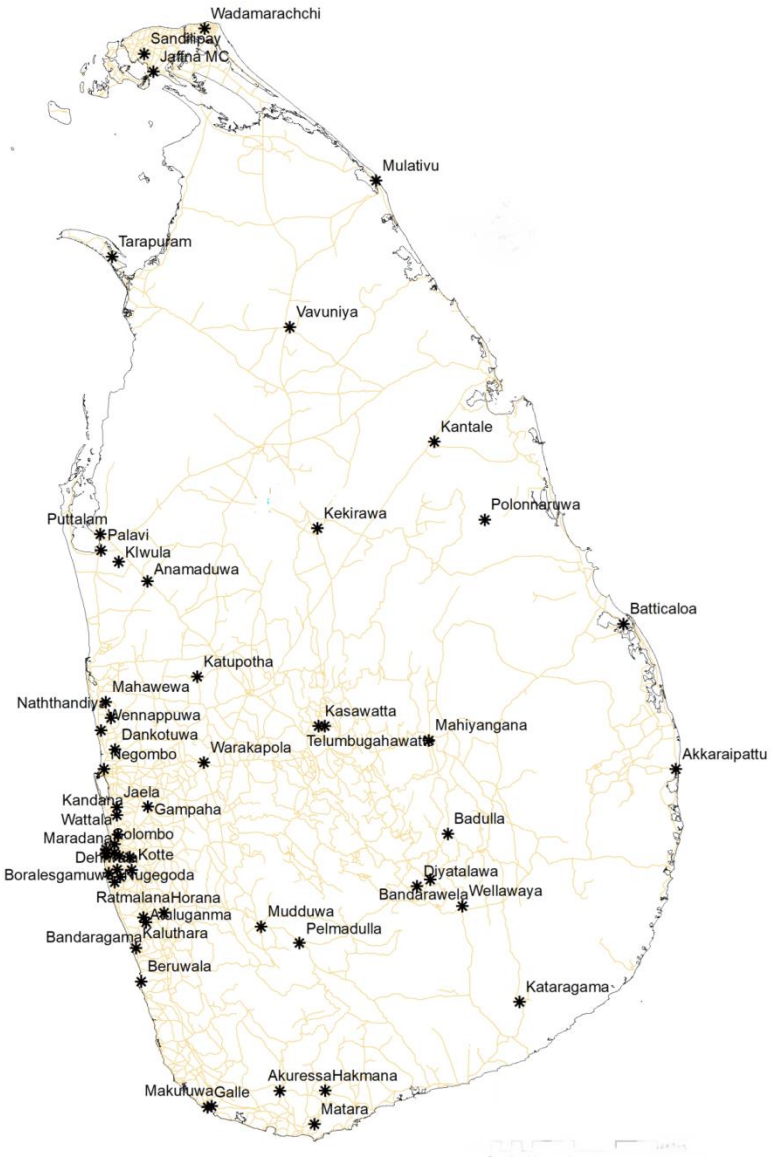
bringing a pandemic of unemployment, collapse in education, crumbling of day to day work, a slump in business and trade, an economic crisis, a surge in crimes and societal disruption and a pandemic of distress and poverty!

Appendix 1
GRID™ Index 2020 vs CP Index 2019

Country	COVID-19 RESPONSE Rank	COVID-19 Response Score (Normalized)	CPI Rank	CPI score 2019	Variation CPI v GRID Rank
New Zealand	1	87	1	87	0
Singapore	2	86	4	85	2
Iceland	3	85	11	78	8
Australia	4	84	12	77	8
Finland	5	83	3	86	-2
Norway	6	79	7	84	1
Canada	7	78	12	77	4
Korea, South	7	78	39	59	31
Hong Kong	9	76	16	76	6
Sri Lanka	9	76	93	38	83
UAE	9	76	21	65	18
Japan	9	76	20	73	14
Taiwan	9	76	28	65	19
Germany	16	72	9	80	-7
Denmark	21	64	1	87	-27
India	38	57	80	41	42
Russia	50	48	137	28	87
China	61	41	80	41	19
Indonesia	63	40	85	40	22
Philippines	64	39	113	34	49
Brazil	68	36	106	35	38
United States of America	70	35	23	69	-47
Mexico	72	33	130	29	58
Bangladesh	80	27	146	26	66
Sweden	87	22	4	85	-83
Switzerland	88	21	4	85	-84
United Kingdom	89	20	12	77	-77
Netherlands	91	19	8	82	-83
France	92	18	23	69	-69
Belgium	93	17	17	75	-76
Italy	93	17	51	53	-42
Spain	95	16	30	62	-65

Source: CMA Australia

Map of locations of Quarantine centres in Sri Lanka as of 10.04.2020



References

Alahakon, C. (2020). Sri Lanka and Coronavirus, *Health Review Global*, available at: https://healthreviewglobal.com/sri-lanka-coronavirus-update-setting-a-global-example/ (accessed 03 May 2020)

Bi, Q., Wu, Y., Mei, S et al. (2020). Epidemiology and transmission of COVID-19 in Shenzhen, China: analysis of 391 cases and 1286 of their close contacts**,** *medRxiv*. available at: https://www.medrxiv.org/content/10.1101/2020.03.03.20028423v3 (accessed 23 April 2020)

Chao, D.L., Halloran, M.E., Obenchain, V.J., Longini, I.M., (2010). FluTE, a publicly available stochastic influenza epidemic simulation model, *PLoS Computational Biology*, Vol 6 No. 01.

Cohen J. Kupferschmidt K. (2020). Labs scramble to produce new coronavirus diagnostics, *Science,* Vol. 367 No 6479, pp.727.

D'Souza, C. (2020). GRID Index: Tracking the Global Leadership Response in the COVID-19 Crisis (2020), *CMA: Australia*, available at: https://www.cmawebline.org/ontarget/grid-index-tracking-the-global-leadership-response-in-the-covid-19-crisis/ (accessed 26 April 2020)

Gonsalves, G.S., Kapczynski, A., Ko, A.I., et al. (2020). Achieving a fair and effective COVID-19 response: an open letter to Vice-President Mike Pence, and other federal, state, and local leaders from public health and legal experts in the United States, available at:https://docs.google.com/document/d/1NVOSECOEp8deYnmJfO0uKtRHcNcbmNrk7dW752dzMeE/edit (accessed 02 May 2020)

Google (n.d.), *Bulukohotenna and Kasawatta GN areas,* available at: https://www.google.lk/maps/place/Bulugohatenna+Sub+Post+Office/@7.3686195,80.6118392,758m/data=!3m1!1e3!4m8!1m2!2m1!1sBulukohotenna+and+Kasawatta+!3m4!1s0x0:0x83d668dbb591df12!8m2!3d7.3679147!4d80.6123543 (accessed 22 April 2020)

Kass, N.E., (2001). An ethics framework for public health**,** *Am J Public Health.* Vol. 91 No 11, pp. 1776-1782.

Koo, J.R., Cook, A.R., Park, M. et al (2020). Interventions to mitigate early spread of COVID-19 in Singapore: a modelling study**,** *The Lancet*, available at: https://doi.org/10.1016/S1473-3099(20)30162-6 (accessed 03 May 2020)

Kupferschmidt, K., Cohen, J., (2020a). China's aggressive measures have slowed the coronavirus. They may not work in other countries, *Science*, available at: https://www.sciencemag.org/news/2020/03/china-s-aggressive-measures-have-slowed-coronavirus-they-may-not-work-other-countries (accessed 26 April 2020)

Kupferschmidt, K., Cohen, J., (2020b), Can China's COVID-19 strategy work elsewhere?, *Science*, Vol. 367 No 6482, pp. 1061-1062. available at: https://science.sciencemag.org/content/367/6482/1061?rss%253D1 = (accessed 26 April 2020)

Lewnard, J.A., Lo, C.N, (2020). Scientific and Ethical basis of Social distancing interventions against Covid-19, *The Lancet*, available at: https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(20)30190-0/fulltext (accessed 03 May 2020)

Romeo F., Quijano, M.D. (2020). Origin of COVID-19: Ecological, Historical and Geopolitical Perspective, *Altermidya*, available at: https://www.altermidya.net/opinion-origin-of-covid-19-ecological-historical-and-geopolitical-perspective/ (accessed 02 May 2020)

She, J., Jiang, J., Ye, L., et al. (2020). 2019 novel coronavirus of pneumonia in Wuhan, China: emerging attack and management strategies, Clinical and Transitional Medicine. Vol. 9, available at: https://clintransmed.springeropen.com/articles/10.1186/s40169-020-00271-z#citeas (accessed 25 April 2020)

Shereen, M.A., Khana, S., Kazmic, A., Bashira, N., Siddique, R., (2020). COVID-19 infection: Origin, transmission, and characteristics of human coronaviruses, *Journal Advanced Research*, Vol. 24, pp. 91-98. DOI: https://doi.org/10.1016/j.jare.2020.03.005

Tan C. C. (2006). SARS in Singapore--key lessons from an epidemic, *Annals of the Academy of Medicine, Singapore*, Vol. 35 No 5, pp. 345–349.

World Health Organization - WHO (5 January 2020), P*neumonia of unknown cause – China*, available at: https://www.who.int/csr/don/05-january-2020-pneumonia-of-unkown-cause-china/en/ (accessed 25 April 2020)

worldometer (n.d.). available at: https://www.worldometers.info (accessed 03 May 2020)