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

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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

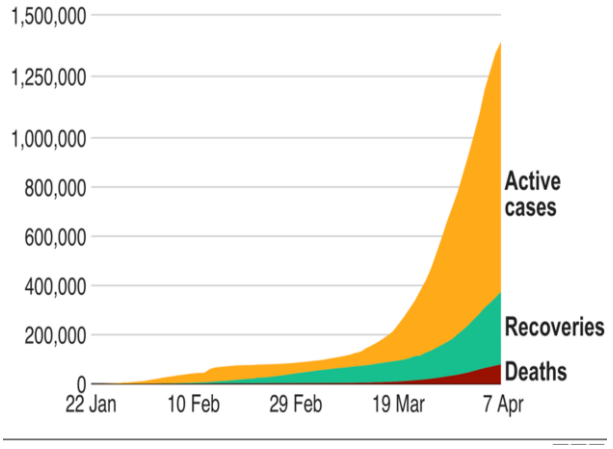
It is almost common knowledge that the term 'Corona Virus' refers to a group of viruses that infect humans and animals, and that the label 'SARS CoV-2' is attached to a recently identified and relatively more contagious pathogen in that group. At present, the mortality of 2019-nCoV in China is 2.3%, 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.

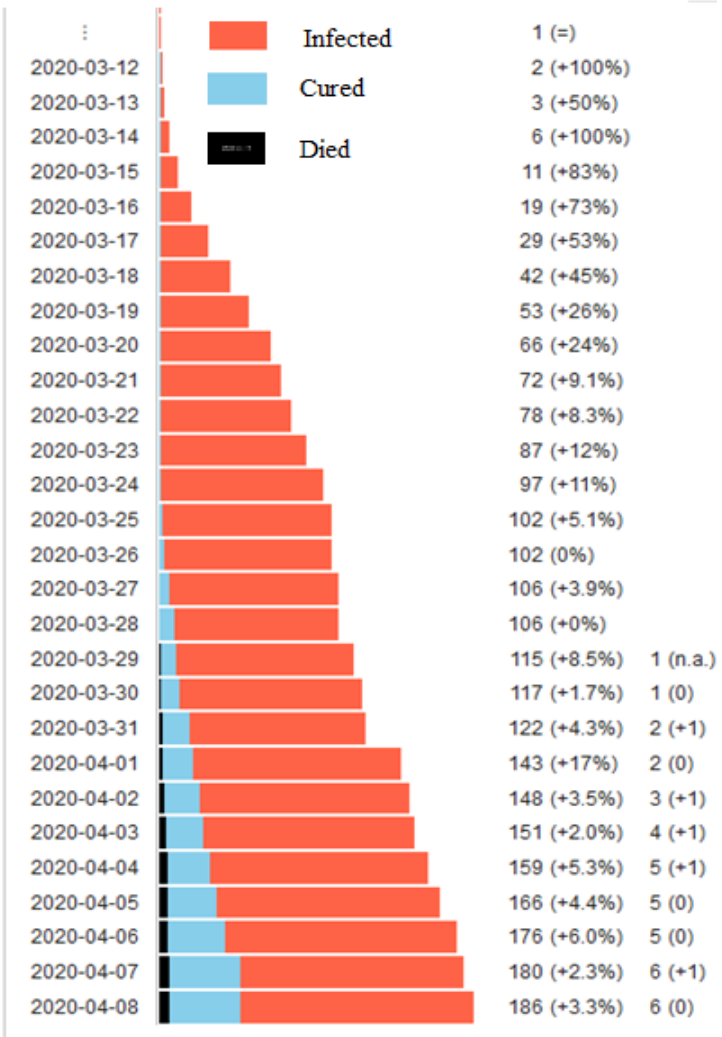
'Spring' in the early months of the year in Sri Lanka is a season of enchanting scenic splendour and with sunny climate but soothing radiance. It is a time of contentment, recreation and joy during which the inter-school sports contests are held, while millions of Buddhist devotees climb the summit of 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

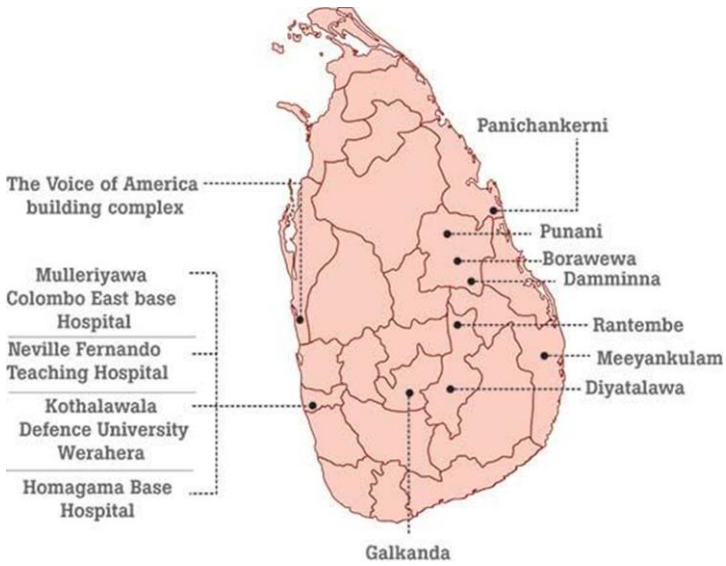
telephone calls, regarding protective measures to keep the virus away. Not to be outdone, private TV and radio channels have been devoting air time to handpicked experts for announcements and panel discussions on what people and the government ought to be doing.

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.

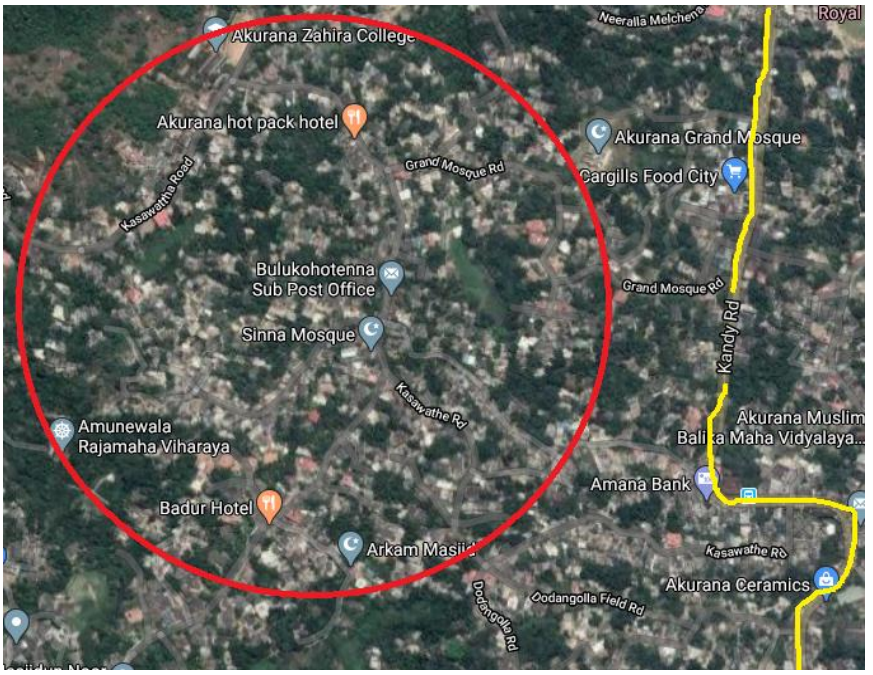
To turn now to Sri Lanka's comparative level of success in controlling the pandemic, there is the 'flip side of the coin' of utmost relevance that must also be borne in mind. In many of the more contagious viral infections, past trends and international comparisons thereof fail to provide an adequate 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™) 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,

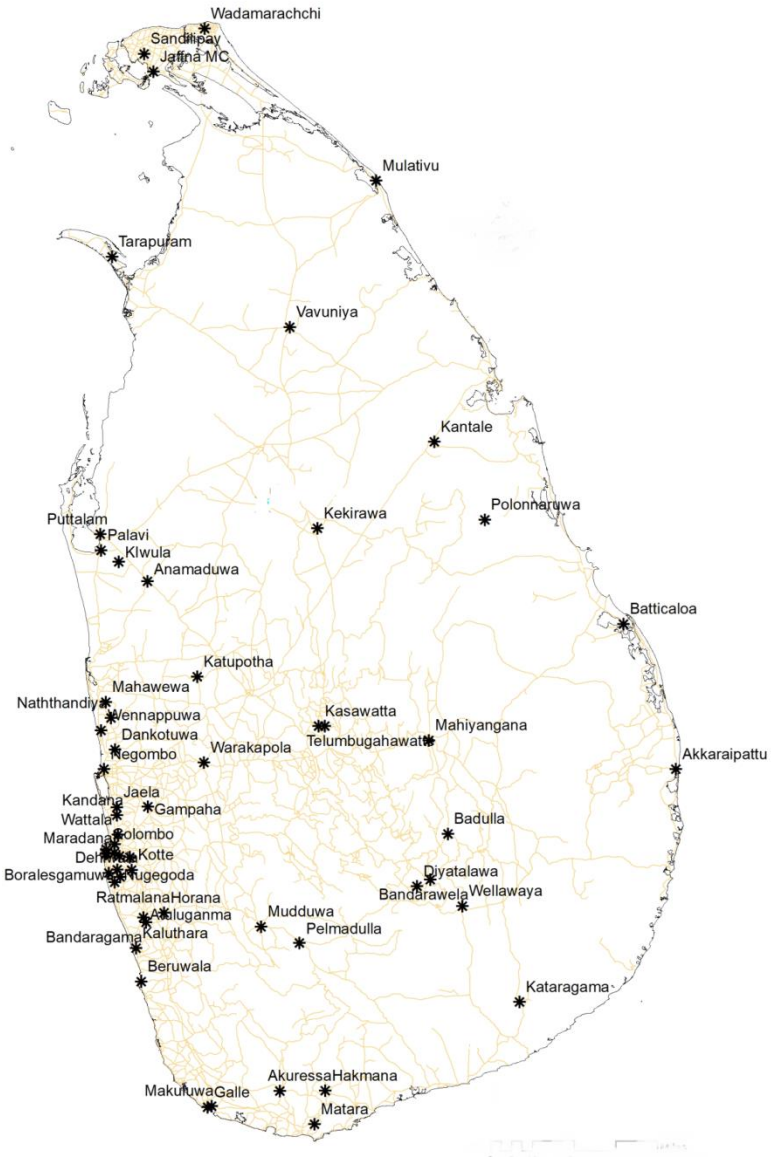
bringing a pandemic of unemployment, collapse in education, crumbling of day to day work, a slump in business and trade, an economic crisis, a surge in crimes and societal disruption and a pandemic of distress and poverty!

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



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Vulnerability of Riverine Communities to Flooding in Makurdi Town, Nigeria

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Abstract

Riverine environments are of significant economic, ecological and social importance to the global population. They are however, under increasing pressure from rapid anthropogenic developmental activities and the effects of climate change. This paper characterizes vulnerable riverine communities, their level of vulnerability, and suggests adaptive measures for the vulnerable communities. Coastal vulnerability index (CVI) adapted by Palmer (2011) is used to measure prescribed physical parameters of Bank width, Coastal slope, Distance of vegetation behind back of the River Bank, Distance of communities from the river, Percentage rock outcrop, Avalanche risk and Presence of braided channels. Vulnerability levels of the communities were classified based on the CVI index (Very low, Low, Moderate, High and Very high). The result shows that Wurukum and Wadata with indices of 26 and 25 respectively have very high vulnerability to flooding, Fiidi has an index of 22 indicating high vulnerability while both High level and North Bank have values of 14 each meaning low vulnerability. The study recommends dredging of river Benue, building of embankments and avoiding building in marshy areas that are flood prone in Makurdi town.

Keywords: Communities and parameters, Flooding, Riverine, Vulnerability

Introduction

Since early civilization, coastal areas have been attractive settling grounds to human population as they provide abundant marine resource, fertile agricultural land and possibilities for trade and transport (Scheartz, 2005). The characteristics of coastal environments, however pose some great challenges to human habitation. Coastal zones are highly dynamic natural systems that interact with terrestrial, marine and atmospheric processes and undergo continuous change in seasons to these processes (National Oceanic and Atmospheric Administration 2016). Over the years, human societies had often failed to recognize the hazards related to these dynamics and this has led to major disasters and societal disruption to various degrees.

Coastal zones, land we lived on, are been more exposed to natural hazards and many disasters are associated with them. Implying communities settling along coastal zones face a worsening situation as the effects of climate change which can be influenced to create floods due to arising of storm surges. Heavy rainfall of long duration or high intensity is becoming more severe (Nicholls, 2004). The vulnerability is the degree to which a system is susceptible to or unable to cope with adverse effects of climate risk, including climate variation to which a system is exposed, its sensitivity and its adaptive capacity (IPCC, 2001). It is a function of the character, magnitude and rate of climate change and the degree to which a system is exposed, along with its sensitivity and adaptive capacity. It increases as the magnitude of climate change or sensitivity increases, and decreases as adaptive capacity increases (OECD, 2009).

In Nigeria, series of flood hazards from various parts of the country at different periods have occurred. For instance, in 2001coastal communities in Abia, Adamawa and AkwaIbom states witnessed heavy down pour and rainstorm which affected about 5000 people. In the same year about 12,300 persons were displaced by torrential rain which destroyed farmlands, damaged property and submerged buildings in Zamfara state. In 2012, a widespread devastating river flood which

severely affected the coastal communities in major cities of 14 states that border the Niger-Benue River. The worst affected States were Adamawa, Taraba, Benue, Kogi and Anambra state (Nkeki et al 2013).

Okereke (2007) highlighted the basic effects of flooding to include loss of human lives, submerging of farmland, residence and streets, inflow of sewage, damage of property, health hazard, clean-up cost, disruption of services, traffic obstruction, aesthetic discoloration, economic loss and infrastructural damage. Makurdi town is situated within the valley plains of river Benue. The proximity of the town to the channel of the Benue river in combination with the low elevation of the flood plain within which the town is situated makes it vulnerable to flooding.

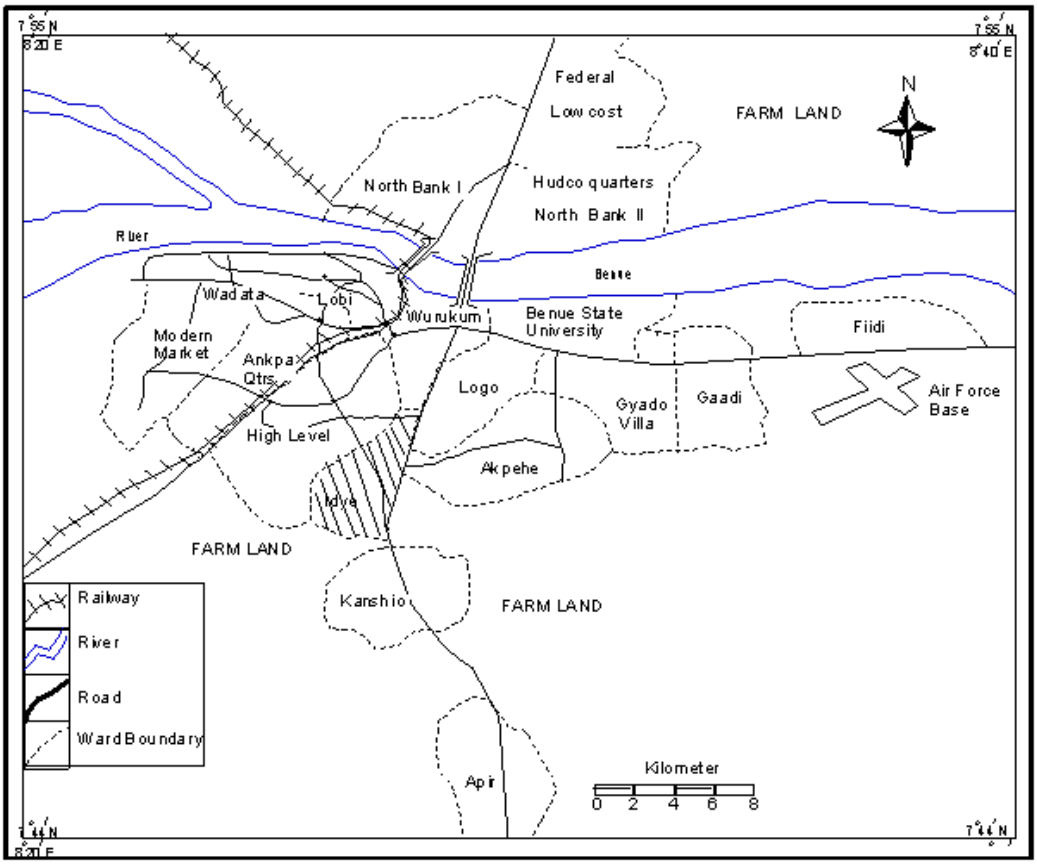
Materials and Methods

Study area

Makurdi town is located at $7^0\ 43^1\ 5^{11}$ N and $7^0\ 45^1\ 47^{11}$N and $8^0\ 32^1\ 10^{11}$ E and $8^0\ 33^1\ 40^{11}$ E. The town is situated astride river Benue in the North central part of Benue state, divided by the river Benue. The city of Makurdi, defined politically, has a radius of about 10km with an area of about 314.2km2. The city stretches from the airport along Gboko road in the West; in the South the town is bounded by Apir while in the North it is bounded by Agan toll gate. Makurdi falls within the tropical wet and dry (Aw) climate. The climate is dominated by South West and North East monsoons that determine the wet and dry seasons respectively. Seasons of three different temperatures are experienced in the study area (Tyubee, 2004). High temperatures are experienced especially in the months of March and April, daily temperature average is about 36^0C. January is regarded as the coldest month with mean temperature of about 30^0C. Average daily temperatures are as high as 32^0C and rarely fall below 20^0C. The vegetation of Makurdi is typical of Guinea Savannah, made up of trees and grasses of various types. Agriculture, especially subsistence farming is widely practised together with market gardening at the valley of river Benue. Most Makurdi dwellers are civil servants and traders, fishing and brick laying are other economic activities carried out at the Benue river. The choice of this study area is owing to its location

along the banks of river Benue and the Coastal Vulnerability Index is best at analysing flooding vulnerability along a stretch of coastal area. The town is shown in the Figure 1.

Figure 1: Map of Makurdi town, Benue State, Nigeria.



Data collection

The data for this study were collected from;

i. Topographic map of the riverine communities.

ii. Co-ordinates of the communities under study.

iii. Elevation (m) and proximity (km) of the river line communities to adjourning river Benue.

iv. Bank width (m), Coastal slope (degrees), Percentage rock outcrop, Avalanche risk and Presence of braided channels.

v. Vegetation, occupation and water sources of inhabitants.

Topographic map of the study area were collected from the Ministry of Lands and Survey, Makurdi and was used to determine the parameters. The ground truth verification by observation and measurement was also done to confirm the map information.

The Coastal Vulnerability Index was used to calculate the vulnerability of the riverine communities under study to flooding. The Coastal Vulnerability Index has been used and modified by many researchers to the needs of their research. For the purpose of this research, the method used by Palmer (2011) was adapted. The choice of this method is that it ensures a quick and efficient measure of assessing vulnerability over a long stretch of coastline. This method uses absolute figures (indices) which are used to rank the attributes of the variables under study. The attributes which were used to evaluate the coastal vulnerability are:

a = Bank width
b = Coastal slope
c = Distance of vegetation behind back of the river bank
d = Distance of communities from the river
e = Percentage rock outcrop
f = Avalanche risk
g = Presence of braided channels
The formula used is as stated below:

Relative CVI = a + b + c + d + e + f + g .....(8)

Where a, b, c, d, e, f, g are the ranked index given to the assessed variables. Therefore, the highest rank index is four (4) and the maximum value for CVI is twenty-eight (28) i.e.

a = River Bank width - 4
b = River Bank slope – 4
c = Distance of vegetation behind back of the River Bank - 4
d = Distance of community to river - 4
e = Percentage rock outcrop - 4
f = Avalanche frequency - 4

g = Presence of braided channels – 4
Total = 4 + 4 + 4 + 4 + 4 + 4 + 4 = 28

Major vulnerable factors of flooding hazard

A field study guided by requirements of the Coastal Vulnerability Index considered seven (7) major factors posing as threats to flooding in Makurdi town. These factors are:

River bank width

Various structures are referred to as banks in different fields of geography but in general a river bank refers to the land alongside a body of water (Luna, Gordon and Miller 1995). The river bank width mentioned here is the extent from the river bank to the mainland i.e. the wideness of the Benue bank at the various locations in the study area. The wider the river bank, the shallower and the more the chances of water spilling into the neighboring areas leading to create flood.

River bank slope

The river bank slope is the gradient of elevation between the river bank and the mainland. This is referred to the steepness and length of line connecting the river at the bank and the mainland. Due to the verifying nature of the underground rocks and vegetation at the river Benue bank, there is varying degrees of erosion and hence, the slope of the river bank is not uniform throughout the study area. The steeper the river bank gradient, the less vulnerable the area is to flooding. Contrary, a gentle or flat bank allows water to spill more easily in the surrounding areas increasing the level of vulnerability to flooding.

Distance of vegetation behind the bank

This refers to the distance between the river bank and where vegetation grows along the river bank of the Benue. The vegetation has a role of acting like a giant sponge that holds water and release to the environment gradually. Where vegetation is closer to the bank, it helps to prevent water from directly moving into the neighborhoods.

Distance of community to river

The further a neighborhood is away from river Benue the lesser the chances of flood water moving into it and the closer the more the risk. Distances of neighborhoods in Makurdi were measured and included as a variable in determining the neighborhoods' risk level to flooding.

Percentage rock outcrop

This is the amount and frequency of rock formation that appears above the surface of the surrounding land. This affects the vulnerability along the bank of river Benue, in that its presence reduces the rate of erosion process while its absence makes it easier as the normal soil offers less resistance.

Avalanche frequency

This is a geological phenomenon that includes a wide range of ground movements, such as rock fall, deep failure of slopes and shallow debris flow. This has left the river bank of River Benue prone to flooding, for instance, in places where it occurs in high frequency it loosens and levels the river bank making it easier for water to rise above the river bank into the neighboring communities.

Presence of braided channels

A braided channel is a channel or water path that consists a network of smaller channels separated by small and often temporary islands. The presence of many of these channels means it is easier for the River Benue to spread its water inland during flooding. The higher the concentration of these channels the more vulnerable a place is to flooding.

For this research, the values in Table 1 were used to rank the index:

Table 1: CVI Parameter ranking

Physical parameters	**Extremely Low (1)**	**Low (2)**	**Moderate (3)**	**High (4)**
River Bank (width)	> 150m	100-150m	50-100m	< 50m
River Bank (slope) Distance of community to river	> 12^{O} >4km	12^{O}-8^{O} 2 -4 km	8^{O}-4^{O} 1- 2 km	< 4^{O} <1km
Distance of vegetation behind the back of Bank (RB)	> 600m	200-600m	100-200m	< 100m
Percentage Rocky Outcrop	> 50%	20-50%	10-20%	< 10%
Avalanche frequency	0	1-10	11-50	>50
Presence of braided channels	0	1- 2	3- 4	> 4

Source: Adapted from Palmer (2011)

With ranking applied, these values were then inputted into a simple equation (CVI = a + b + c + d + e + f + g) to calculate each riverine community's CVI score; a score that indicated each riverine community's vulnerability comparative to other communities along the river line. The minimum score possible is 6 and the maximum is 28.

Palmer (2011) organized the CVI scores into five (5) categories of very low, moderate, high, and very high vulnerabilities. Riverine communities scoring within the mid-range (between 25% and 75% percentiles) were ranked as moderate vulnerability while communities scoring below or above the moderate class are categorize as lower or higher vulnerability respectively. This ranking system is presented below:

Very low = 6 – 12
Low = 13 – 15
Moderate = 16 – 18
High = 19 – 22
Very high = 23 – 28

Result and Discussion

Classification of flood vulnerability levels among neighborhoods in Makurdi town

Using the Coastal Vulnerability Index requirements, the variables for each of the Neighborhood are presented in table 5.1. With rankings applied as in table 5.2, these values were then input into the equation to calculate each communities score.

Relative CVI = a + b + c + d + e + f + g

Fiidi

Relative CVI = a + b + c + d + e + f + g

= 4 + 4 + 1 + 4 + 3 + 4 + 2 = 22

Wurukum

Relative CVI = a + b + c + d + e + f + g

= 4 + 4 + 4 + 4 + 4 + 4 + 2 = 26

High Level

Relative CVI = a + b + c + d + e + f + g

= 4 + 2 + 2 + 1 + 2 + 2 + 1 = 14

North Bank

Relative CVI = a + b + c + d + e + f + g

= 4 + 1 + 4 + 1 + 1 + 2 + 1 = 14

Wadata

Relative CVI = a + b + c + d + e + f + g

= 4 + 4 + 4 + 4 + 4 + 4 + 1 = 25

The vulnerability index as presented by Palmer (2011) indicated the levels as:

Very low	=	6 – 12
Low	=	13 – 15
Moderate	=	16 – 18
High	=	19 – 22
Very high	=	23 – 28

According to the above results, Fiidi with a CVI score of 22 has a high vulnerability level to flooding, Wurukum with a CVI score of 26 has a

very high vulnerability level to flooding, High level with a CVI score of 14 as interpreted by the CVI ranking has a low vulnerability to flooding, North Bank which has a CVI score of 14 also can be considered as a low level of vulnerability, and Wadata with a CVI score of 25 can be identified as a very high vulnerability to flooding.

Table 2: Index values used to rank the data

S\N	Communities	Location	River Bank Width (a)	River Bank Slope (b)	Distance from River (c)	Distance of Vegetation (d)	Percentage Rock Outcrop (e)	Avalanche Frequency (f)	Presence of Braided Channel (g)
1.	Fiidi	Lat 7^0 48^1 Long 8^0 39^1	40m	2^o	3km	30m	12%	72	2
2.	Wurukum	Lat 7^0 46^1 Long 8^0 33^1	30m	2^o	650m	20m	2%	60	1
3.	High Level	Lat 7^0 47^1 Long 8^0 33^1	32m	12^o	4km	4km	45%	8	0
4.	North Bank	Lat 7^0 51^1 Long 8^0 36^1	32m	14^o	400m	650m	70%	7	0
5.	Wadata	Lat 7^0 50^1 Long 8^0 34^1	30m	2^o	500m	18m	5%	70	0

Source: Field Survey 2017

Table 3: Ranking of the field data in accordance with the CVI

S/N	Communities	a	b	c	d	e	f	g
1.	Fiidi	High(4)	High (4)	Extremely low (1)	High (4)	Moderate (3)	High (4)	Low(2)
2.	Wurukum	High(4)	High(4)	High(4)	High(4)	High(4)	High(4)	Low (2)
3.	High Level	High(4)	Low(2)	Low (2)	Extremely Low (1)	Low(2)	Low(2)	Extremely Low (1)
4.	North Bank	High(4)	Extremely Low(1)	High (4)	Extremely low (1)	Extremely Low(1)	Low (2)	Extremely Low (1)
5.	Wadata	High (4)	High(4)	High(4)	High(4)	High(4)	High(4)	Extremely Low (1)

Source: Field Survey 2018

Conclusions and Recommendations

It is no doubt that every community bordering a water body is vulnerable to any one form of flooding but the nature of such impact is distinct to every region. This is the case in the research which reveals that the communities along river Benue in Makurdi town are vulnerable to flood at different levels. Wadata and Wurukum communities have very high vulnerability; Fiidi has high vulnerability while High Level and North Bank have low vulnerability to flooding. The study recommends dredging of river Benue, building of embankments and avoiding to build structures in marshy areas that are flood prone in Makurdi town to avert and mitigate the impact of flooding.

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An Economic Evaluation of Fertilizer Subsidy on Paddy Production in Sri Lanka

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Abstract

Fertilizer subsidy is one of the largest subsidy programs implemented in Sri Lanka. In 2018, approximately Rs.40 billion was allocated from the national budget for providing fertilizer subsidies for cultivating paddy in the country. The primary objective of this paper is to estimate the costs and benefits of fertilizer subsidy scheme which is implemented over the last 14 years in Sri Lanka. The secondary data covering the period between 2005 and 2018 on value of total fertilizer subsidy, total paddy production and the extent of land used for cultivating paddy was used for the analysis. The result of the study shows a significant variation in the total paddy production and the costs of total fertilizer subsidies which vary from 9 % to 36 % of the value of total rice production (benefits) during the study period. Furthermore, econometric model estimation confirms that total fertilizer subsidies, cultivated land area and regional variation have significant impacts on total paddy production in the country. The results of the study will help the government to understand the effectiveness of the existing subsidy program and design a more appropriate target system in the future.

Keywords: Fertilizer subsidy, Paddy Production, Relative Advantage, Sri Lanka

Introduction

The cultivation of paddy plays an important role in the domestic agricultural sector of Sri Lanka. During the period 2000-2019, annual average contribution of the paddy cultivation to the agricultural GDP of the country was 20 per cent (Central Bank of Sri Lanka, 2019). Out of the total employment, the contribution of the agriculture sector was 28 per cent in the year 2018 while the contribution of the agriculture sector for the national income accounted for 8 per cent (Central Bank of Sri Lanka, 2019). Besides, approximately 13 per cent out of the total extent of agricultural lands has been reserved for the paddy cultivation. The rate of self-sufficiency was recorded as 130 % by 2015. Rice consumption provides about 40 per cent of per capita calories and 30 per cent of per capita protein to an average Sri Lankan's diet, and accounts for nearly 15 per cent of average per capita consumption expenditure. Therefore, it is believed that cultivation of rice is the principal contributor to the rural economy in the country as the majority of rural households engage not only in the production, but also selling rice as their main or additional source of livelihood (DCS, 2019).

The paddy cultivation in Sri Lanka had been facing unprecedented challenges such as stagnation of yield, diminishing income due to escalation of costs of production, and abandonment of rice lands since the early 1980s, (Thiruchelwam, 2005; Athukorala et al. 2012). These issues were mainly due to low productivity. Successive governments at the end of the 1960s and the beginning of the 1970s identified the need to increase productivity in the paddy farming sector. Meanwhile, the Sri Lankan government identified large-scale subsidy projects as an appropriate tool to increase productivity in the rice-farming sector in the long-term. As a result, there has been a steady increase in rice production in Sri Lanka from 1975 to 2019, leading to self-sufficiency in feeding the population of 20 million (approximately) in the country. Apart from the objective of ensuring food security, the agriculture policy of the government places high priority on transforming traditional subsistence agriculture to one which maximizes productivity (SLCARP, 2018). Increasing in productivity may bring benefits to farmers in improving their livelihood (Mergos and Stoforos, 1997; Morris et al. 2007; Esther et

al. 2011). In any country, an incentive such as agriculture subsidies should have the capacity to maintain and improve the standards of living of farmers enhancing the agricultural production (Ahmed, 1987; Arriyagada et al. 2010). The efficiency and innovation in this sector will contribute to adequate and reliable sources of food in the country while protecting food safety, quality and the environment. In the developing world, agricultural subsidies target poverty alleviation, rural development and increasing of income of poor farmers. Therefore, it is obvious that agricultural subsidies are playing a major role in any economy in the world (Ghosh, 2004).

The evidence from the past studies clearly shows a gradual decline of the number of paddy cultivating families in the country and its impact on the rural economy. This is because of the high cost of inputs and low level of the returns, resulting the falling of income generation ability of the farming community. This has resulted farmers to move out of paddy cultivation looking for alternative sources of income. Therefore, government intervention in developing infrastructure facilities including irrigation systems and formulating policies at national level are rationalised by policy makers. The government is expected to minimize the cultivation cost by introducing a subsidy scheme for the fertilizer which is being used as a main application in the field of paddy cultivation (Weerahewa, 2004). The increase of paddy harvest, expansion of the lands under the paddy cultivation, minimization of rice importation and improvement of the living standards of the farming community is expected from the fertilizer subsidy programme implemented by the government in the country. At present, paddy cultivation in Sri Lanka is largely dependent on subsidies which are not highlighted in policy discussions. Supply of free water, extension of services free of charge, concessionary loans are among benefits given by the government to rice farmers in the country. The fertilizer subsidy is the most controversial input subsidy program provided for paddy farming sector. It was initiated in 1962 with the introduction of High Yielding Varieties (HYVs) as an effect of the Green Revolution. At present, fertilizer subsidies on paddy farmers accounts approximately 50% of the overall use of chemical

fertilizer in the country and it is approximately Rs. 40 billion in value (Central Bank of Sri Lanka 2019).

The Government of Sri Lanka has been subsidizing fertilizer for more than seven decades. In 1962, the government introduced a price subsidy for fertilizer. The main objective of this subsidy scheme was to make fertilizer available at an affordable price in order to encourage its use (Weerahewa et al 2010). Initially, the Government of Sri Lanka paid subsidies directly to fertilizer importers and informed them to distribute required fertilizer among the farmers. However, this practice has been changed with time under different policies implemented by different regimes. For example, when a new government came into power in 2015, they changed the fertilizer subsidy policy from material subsidies into direct cash transfer. Although there are several studies such as Ekanayake (2005); Rajapakshe and Karunagoda (2009); Rashmika and Edirisinghe (2016) in Sri Lanka which examined the factors that determine the demand for fertilizer in paddy cultivation, these studies have failed to consider recent data that capture the real benefits of spending money for fertilizer subsidy in the country. Given this background, this study estimates the costs of fertilizers subsidies and evaluates it as a ratio of the gains in spending money on fertilizer in Sri Lanka over the last 14 year period in the country. Accordingly, the main objective of the study is to estimate the benefits in terms of increasing yields of paddy due to the fertilizer subsidy scheme in Sri Lanka. It will also identify the cost and benefit of giving fertilizer subsidy for paddy farmers in the country. Further, the relationship between fertilizer subsidies and paddy yield will be estimated using an econometric model.

Literature review

The fertilizer subsidy for rice sector in Sri Lanka has been the subject of a number of economic studies and analyses (Kikuchi & Aluwihare, 1990; Rajapakshe and Karunagoda, 2009; Weerahewa et al. 2010). However, the findings of these studies have not been consistent. While some studies (Ekanayake, 2005) find that the fertilizer subsidies have an important determinant in stimulating rice production in Sri Lanka, some other

studies provide contradictory results. Meanwhile, several studies (Salunkhe and Deshmush, 2012) done in developing countries show the benefits of deregulation of fertilizer supply interns of ensuring better quality and availability of the input through enforcing market competition. When the production and distribution of fertilizer is highly regulated, it may contribute to the limited capacity utilization while limiting competition among fertilizer producers and distributors (Ahmed, 1987; Arriyagada et al. 2010). Eventually, this will contribute to fertilizer shortages if no proper monitoring mechanism is implemented (Yamaguchi and Sanker, 2007).

Griliches (1958) has estimated the aggregate demand function for the usage of fertilizer on all crops in United States. The model explained, the large portion of the variation in the regional fertilizer use. Russel and Williams (1977) examine changes of fertilizer consumption in two villages of Bangladesh during the period from 1977 to 1978 using primary data. Findings of this study show that fertilizer consumption for an acre of crops has increased together over the period even though the fertilizer price ratio had increased. Burrell (1982) estimates the demand for fertilizer in the United Kingdom. The researcher used three different modelling approaches with two different data sets (nitrogen and all fertilizers). The estimated elasticity in this analysis with respect to crop price is between -0.4 to -0.5 for nitrogen and between -0.1 to -0.3 for fertilizer. The demand for nitrogen fertilizer is more sensitive to its own price than Phosphate and Potash fertilizer. Bogahawatte (1982) studies, the factor determining the aggregate production and consumption decisions of rice during the period from 1955 to 1979 and Thusiman et al. (1987) assessed the fertilizer subsidy scheme that was in operation in the early 1980s.

Sing and Sidhu (1985) analysed the price supports vs. fertilizer subsidy in Ghana. The study provided a decision criterion for the policy makers to choose between the price supporter and fertilizer subsidy under different situations depending on objectives of the policies. Yohanes et al. (1990) attempt to study the use of fertilizers by farmers in Ethiopia. Accordingly, a high level of subsidy may carry the potential of serious

distortions relative to smaller levels of subsidy for at least some farmers. Narayan & Gupta (1991), Shahsibzada and Gaffar (1995) analysed the impacts of withdrawal input subsidies on crop yields. Singh (2004) examines the issues of inter crop, inter regional and inter class equity in fertilizer subsidy distribution in India. The results of the study show that paddy and wheat cultivation are the major beneficiaries of fertilizer subsidy. The study reveals a fair degree of inter class equity in distribution of fertilizer subsidy both at country level and state level. Ekanayaka (2005) assessed the impact of fertilizer prices on fertilizer demand for the period from 1962 to 2005. The result showed an inelastic fertilizer demand response to fertilizer price.

Several studies (Rajapaksa & Karunagoda, 2009; Rajapakshe and Karunagoda, 2009; Herath et al. 2013) that attempted to examine the factors determining the demand for fertilizer in paddy cultivation in Sri Lanka. Ekanayake (2005) investigated the impact of fertilizer prices on fertilizer demand for the period from 1962 to 2005 and the results showed an inelastic fertilizer demand response to fertilizer price. Similar results are shown by Thusiman et al. (1987) and Weerahewa (2004). According to Rajapaksa and Karunagoda (2009) the price control can be more effective than fertilizer subsidization in promoting fertilizer use and rice productivity, even when the responses were inelastic to rice price. However, according to Wickramasinghe et al. (2009) the current fertilizer subsidy program has been effective and efficient in terms of achieving national objectives in economy, food security, and rural welfare policies. Wijetunga et al. (2008), Rajapaksa and Karunagoda (2009) and Wickramasinghe et al. (2009) have recommended a gradual scaling down of the subsidy for rice farmers in the country. According to their findings, the rice supply and fertilizer demand in non-commercial farming areas were more responsive to fertilizer price than in the commercial farming areas.

Several recent studies (Gulati and Bajaree, 2015; Salunkhe and Deshmush, 2012) in this area have shown that, input subsidies such as fertilizer help to maintain the productivity of the paddy farm. Preveen et al. (2017) examines the benefits of fertilizer subsidies from farmer's

point of view and observe that the benefit of subsidies reaches to all farmers in India. Accordingly, small and marginal farmers receive about 53 percent of the total subsidies allocated to all crops. Abeygunwardhana, (2014) studied reasons for continuing fertilizer subsidies in Sri Lanka. The key findings of this study suggest that the persistence of the rice fertilizer subsidy in Sri Lanka is best explained by a model of shared food preference. Gulati and Bajaree (2015) raised three key issues such as fiscal sustainability, price distortion and distributional impacts with regard to fertilizer subsidy in India. Furthermore, Usman (2016); Salunkhe and Deshmush (2018) have shown the importance of providing fertilizer subsidies to increase the yields of agricultural crops in different countries. Meanwhile, studies done by Yamaguchi & Sanker (2007), Weerahewa et al. (2010) and Semasinghe (2012) discuss the costs and benefits of fertilizer subsidies in Sri Lanka.

Accordingly, the evidence given by the above-mentioned studies show that the impacts of fertilizer subsidies on rice output can vary from country to country. In Sri Lanka, many farming communities experience the adverse climatic changes such as drought, rainfall, flood and threats from wild animals. The fluctuation of the price levels for commodities is a common and crucial issue yet to be addressed by the policy makers. Sri Lankan farmers are struggling in getting advantages from the subsidy scheme due to various reasons such as unavailability of collateral due to contract farming, unpredictability of the volume of the harvest and lack of financial discipline. Therefore, it is paramount to identify the real benefits of spending money on fertilizer subsidies in any country. This study will partly fill this void of the literature.

Methodology and Data

The Linear, Cobb-Douglas (CD) or Constant Elasticity of Substitution (CES) production functions are the best-known functional forms economics that are used to express the technological correlation between inputs and outputs. The inputs here are often capital, labour, raw materials or any other factors which is believed to be correlated with the output (Mergos and Stoforos, 1997). However, CD or CES production

functions are employed under the strong presumption of an elasticity of substitution with respect to relevant factors of production (Esther et al. 2011). Therefore, this study employed simple linear functional forms to identify the relationship between the rice output and relevant aggregate level variables. Theoretically, paddy output can be a function of the land, capital, labour, fertilizer and any other relevant variable (Chembezi, 1990). In this study, we used land, fertilizer[1] and several dummy variables in the production function. The variables; capital and labour are not used as there is no district-wise data related to those two variables. The general form of the model can be written as Equation 1.

$$Y = f(L, F, Z) \text{.....(1)}$$

where Y is the total output of paddy, L is the cultivated land area, F is the expenditure on fertilizer subsidies and Z represents the dummy variables which captures the different climatic zones and seasonal variation in Sri Lanka. The study uses panel data analysis techniques as it has the advantage of containing the information necessary to deal with both the inter temporal dynamics and the individuality of the entities being investigated (Renfro, 1992). There are basically three types of panel data models namely, a pooled ordinary least square (OLS) regression, panel model with random effects and panel model with fixed effects (Greene, 2000). The general specification of the pooled OLS model is given by Equation 2:

$$Y_{it} = \beta_0 + \beta_1 F_{it} + \beta_2 L_{it} + \beta_3 D_1 + \beta_4 D_2 + \beta_5 D_3 + \mu_{it} \text{.....(2)}$$

i = 1, 2, ….,25 (districts)

t = 2005, ...2019 (season)

L = cultivated land area

F = Expenditure on fertilizer subsidies

D1 = dummy variable (1 if Yala season, 0 otherwise)

[1] We used fertilizer expenditure as a proxy variable to represent the fertilizer quantity in the model.

D2 = dummy variable (1 if Dry zone, 0 otherwise)

D3 = dummy variable (1 if Intermediary zone, 0 otherwise)

where i and t denote district and years, such that Y is the dependent variable which is the average production by each district in year t, β_0 is the constant Y intercept across all district. In Equation 2 μ_{it} are the residuals and are approximately normally distributed with a mean of zero [$\mu_{it} .. N(0, \sigma^2)$]. In this case the error term can vary over both districts and time. When using a pooled OLS regression, districts' unobservable individual effects are not controlled and the heterogeneity of the districts under consideration for the analysis can influence measurements of the estimated parameters (Greene, 2008). Further, using a panel data model incorporating individual effects allows us to account for individual heterogeneity. If this heterogeneity is not considered, it will be inevitably bias in the results (Baltagi, 2008). Therefore, by incorporating districts' unobservable individual effects in Equation (2) the model to be estimated is as follows:

$$Y_{it} = \beta_0 + \beta_1 F_{it} + \beta_2 L_{it} + \beta_3 D_1 + \beta_4 D_2 + \beta_5 D_3 + w_{it} \ldots\ldots\ldots\ldots (3)$$

where, $w_{it} = e_i + \mu_{it}$ with e_i being households' unobservable individual effects. The difference between a polled OLS regression and a model considering unobservable districts effects lies precisely in e_i . When we consider the random effect model, Equation 3 will be the same although e_i is presumed to be having the property of a zero-mean independent of the district observation error term μ_{it} which has constant variances and is independent on the explanatory variables. In this study, we first ran the pooled OLS fixed effects and then the random effects model incorporating all variables. Based on the various tests including the Hausman test, the latter model was selected and estimated after controlling various variables.

This study is used in secondary data on paddy production and fertilizer subsidy in Sri Lanka. Annual data between 2005 and 2018 covering 25 districts in the country is used in the analysis. Data is gathered from the

Department of Census and Statistics of Sri Lanka, Central Bank Reports and the Ministry of Finance and Planning. The main variables used in this analysis are total paddy production (MT), fertilizer subsidy expenditure (Rs / billion), value of total paddy production (Rs / billion) and cultivated land area (hectares). In order to investigate a relative advantage of the fertilizer subsidy scheme among the different districts in Sri Lanka as well as to identify the cost and benefits of fertilizer subsidy for paddy production, the value of the total fertilizer costs are expressed in terms of the total value of the paddy productions in different years.

Results and Discussion

The rice sector in Sri Lanka had been facing many challenges over the last few decades, such as stagnation of yield, diminishing income, increasing costs of production and abandonment of rice lands (Athukorala et al. 2012). These issues were mainly due to low productivity. The successive governments at the end of the 1980s have identified the need to increase productivity in the rice farming sector (Abeygunwardhana, 2014). This has resulted in increasing the total area under paddy cultivation significantly. Overall, productivity has also increased from 3.56 MT per hectare in 2000 to 4.25 MT per hectare in 2018. At present, approximately more than two thirds of the total rice cultivation area is assured irrigation. Rice is cultivated during two seasons, *Maha* and *Yala*. *Maha* (October to March) usually accounts for about 65 per cent of the annual production and the rest, 35 per cent being produced from the *Yala* crop (April to September). This study uses annual district- wise data between 2005 and 2018. Table 1 gives statistical details on the variables used in the analysis.

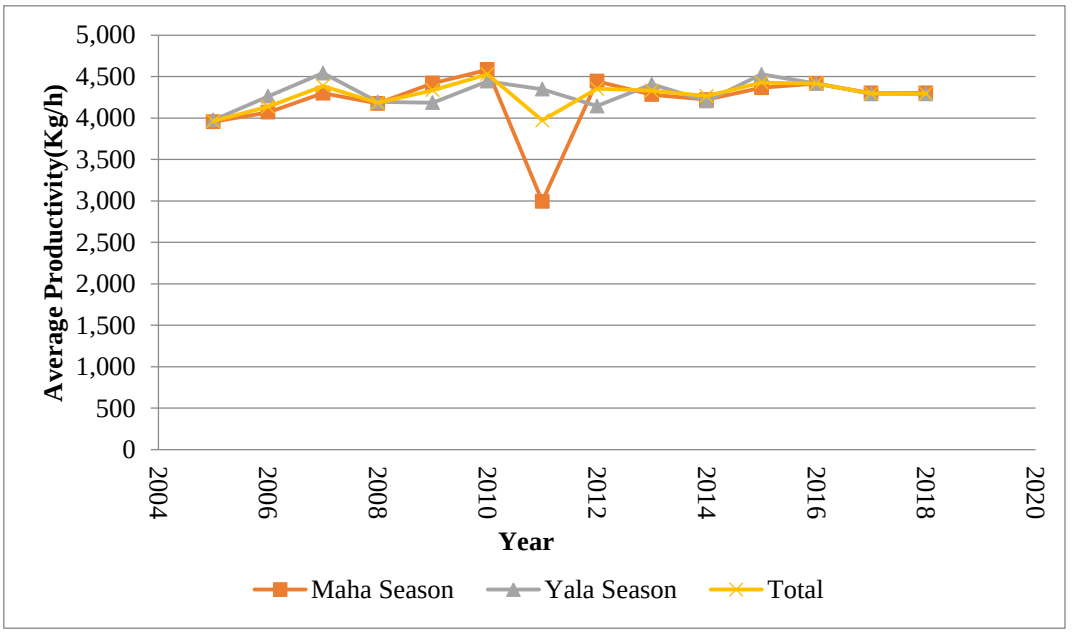
Table 1: Average figures with different seasons and climatic zones

Variable	*Yala* Season	*Maha* Season	Dry Zone	Wet Zone	Intermediate Zone
Paddy Yield (Kg/per hectare)	3,983	3,871	4,173	3418	4,402
Cultivated Land Area (Hectares)	26,271	14,875	27,566	8337	29,043
Fertilizer Expenditure (Rs/ Million)	934	512	982	284	1,007

Note: All the information related to paddy yield and cultivated land area are taken from the website of Department of Census and Statistics in Sri Lanka (Paddy Statistics 2019).

The paddy cultivation in the country is highly dependent on the climatic factors. The climatic factors determine vulnerability of paddy production as well as its productivity. We estimated the average yield of paddy per hectare which is an indicator of the productivity and found that there is not much difference between the two main seasons namely *Yala and Maha*. Although we are expecting the lowest average paddy yield in wet zone, the results show that the average yield of paddy in wet zone has reached the same level as others. According to the average cultivated land area, extent of the agricultural lands is slightly larger in intermediate and dry zones than the other regions, but the data show that extent of the lands has no effect on the paddy productivity. On average, a minimum cultivated area is reported from wet zone, but the paddy harvest is considerable when compared to other zones. The minimum average fertilizer expenditure is from wet zone while the values of other regions remain high. We investigated the average productivity of the two seasons as well as country during the study period. Figure 1 reports the average productivity changes from 2005 to 2018 both in *Yala* and *Maha* season.

Figure 1: Average productivity changes during the study period (Kg/ per hectare)



The measurement of productivity and identifying the trend helps in knowing the regions or time period that performs with a lower or higher efficiency in comparison with the other areas or time period (Usman, 2016). From time to time, considerable efforts have been made by governments to increase the productivity level of paddy in the country in addition to providing fertilizer subsidies to farmers. However, in Sri Lanka, the relatively higher growth rate of the agricultural sector in the past has been achieved mainly through the introduction of Green Revolution (GR) varieties and the expansion of cultivated areas (Athukorala et al. 2012). This was due to large-scale government expenditure on irrigation development and resettlement programs in the dry zone within the country. This pattern of growth can no longer continue since Sri Lanka had run out of its new agricultural land around a decade ago (De Silva, 1999). Therefore, it is necessary to increase average productivity of the cultivated land. The average productivity of paddy (per hectare) during 2005 to 2010 in *Maha* Season has taken a

relatively higher value. However, in 2011 there is a huge drop in paddy productivity, which is less than half of the value compared to others. And then again, it is getting back to normal from 2012 to 2018. The changes of the average productivity of the two main cultivation zones in the country are given in Figure 2.

Figure 2: Average productivity changes between dry zone and wet zone (Kg/ per hectare)

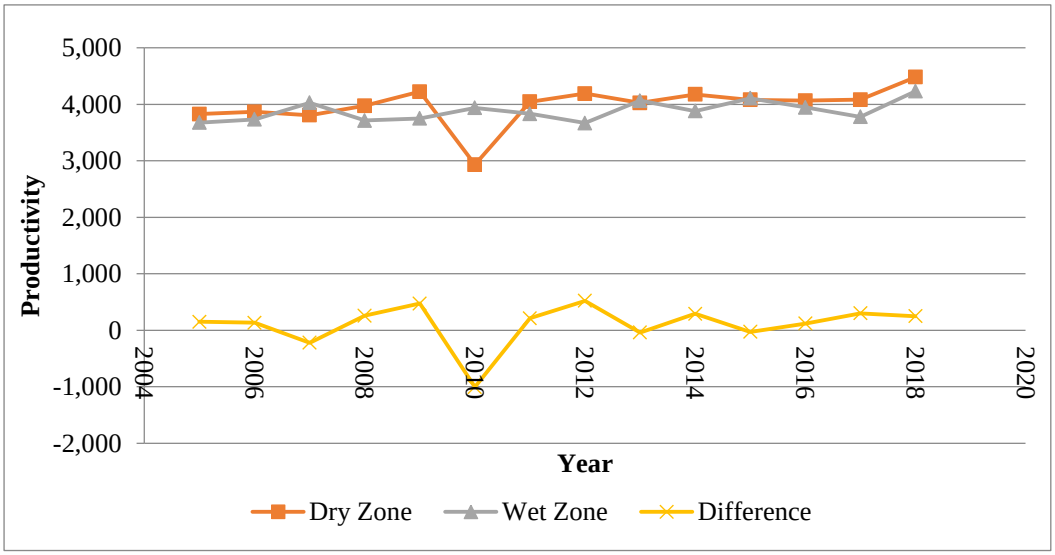


Figure 2 shows, the average productivity changes between wet zone and dry zone. This productivity difference was estimated by subtracting the productivity of wet zone from dry zone. It is evident that there are positive and negative differences in this period. According to the graph in 2007, 2010, 2013 and 2015 there is a negative difference which implies the average productivity which is higher in wet zone than in the dry zone. As usual, in other years the productivity of dry zone had been high, but not in a significant difference. We estimated the correlation between productivity difference and the changes of the fertilizer expenditure during this period and found that the correlation coefficient is 0.28 implying a positive, a significant value. In general, application of fertilizer may differ from region to region within the country, due to cultural practices, climate, soil type, crops that were grown and the farm structure. However, most of these factors do not change with the time.

Furthermore, productivity can be mainly determined by the availability of water depending on the rainfall pattern in the country which can be changed during the study period.

The National Fertilizer Secretariat (NFS) is the authoritative body responsible for coordinating all activities relating to importation and distribution of subsidized fertilizers in the country. The NFS estimates the fertilizer requirements each year in advance and prepare a fertilizer requirement plan for the next year. However, activities such as importing, wholesale marketing and delivery of fertilizers to the village distribution centres are done by the Ceylon Fertilizer Cooperation and the Colombo Commercial Fertilizer Company (Abeygunawardane, 2014). The current fertilizer subsidy scheme for rice started in 2005 and subsidy mainly includes nitrogen, phosphorous, and potassium fertilizers[2]. Since 2005, several changes were undertaken with regard to the fertilizer subsidy policy. A significant change happened during 2016 with the introduction of cash grant (fertilizer allowance) programme as an alternative for the fertilizer subsidy. However, this has changed again in 2019 to the material grants with the political changes in the country.

Table 2: Total paddy output and expenditure on fertilizer subsidies

Year	Total Paddy Production (MT/1000)	Total Value of Paddy Production (Rs/million)	Fertilizer Subsidy Expenditure (Rs/million)	Subsidy as a % of total value of the paddy output
2005	3,369	134,760	29,000	21.52
2006	3,179	127,160	30,000	23.59
2007	3,283	131,320	30,000	22.84
2008	4,134	169,494	30,000	17.70
2009	4,336	195,120	30,000	15.38
2010	4,528	203,760	30,000	14.72

[2] Both owner and tenant farmers were eligible to receive the subsidy upon producing documentary evidence of the right to cultivate.

2011	3,970	178,650	30,000	16.79
2012	4,353	195,885	36,456	18.61
2013	4,620	207,900	19,706	9.48
2014	3,381	152,145	31,802	20.90
2015	4,819	216,855	35,000	16.14
2016	4,420	198,900	37,500	18.85
2017	2,383	107,235	38,750	36.14
2018	3,930	176,850	40,000	22.62

Note: Value of the total paddy output is estimated using average price of paddy in Sri Lanka

Table 2 shows total paddy production and fertilizer subsidy expenditure from 2005 to 2018 in Sri Lanka. It is evident that the total paddy production has been fluctuating during this period but it has shown an increase in the past 14 years. According to the Table 2, total government expenditure on subsidy as a percentage of total value of the paddy output varies between 9 % to 36 % over the study period. The total value of paddy production has fluctuated due to changes in the cultivated area, productivity as well as market prices. Over the years, subsidy scheme has been changed according to changes in government. In addition to that, the cultivated land area can have some impacts on determining the government expenditure on fertilizer subsidies on an aggregate level. Due to changes of these factors, the amount of allocation for fertilizer from the annual budget has fluctuated during the study period. We estimated the cost of fertilizer subsidies after expressing it as a percentage of total value of the paddy output during the study period. Last column in Table 2 shows these estimates. For example, in 2005 total cost of fertilizer subsidy as a percentage of total value of paddy output was 21.52. This has increased to 36 % in 2017 which is the highest percentage during the study period and the lowest percentage is reported as 9.48 % in 2013. Similar estimation was done for *Yala* and *Maha* seasons separately and average of the entire period was estimated. Those estimations are given in Table 3.

Table 3: Estimation for different seasons (subsidy as a % of total value of the paddy output)

Year	Subsidy as a % of total value of the paddy output			
	Yala	*Average*	*Maha*	*Average*
2005	22.15		21.94	
2006	21.13		21.43	
2007	22.46		25.57	
2008	17.52		17.33	
2009	19.77		18.03	
2010	16.60		23.45	
2011	14.49		14.49	
2012	24.19		22.60	
2013	10.32	22.6	12.08	24.12
2014	20.60		20.29	
2015	15.70		16.56	
2016	41.09		58.99	
2017	36.04		36.72	
2018	29.60		28.82	

Note: Average for the entire period is given in the second column in season

We also expressed the government expenditure on fertilizer subsidies as a % of total paddy output value for different seasons and estimated the average value of each season. It becomes clear that these averages are 22.6 and 24.1 for *Yala* and *Maha* seasons respectively. Next, we estimated the tolerable level of output for each year. The purpose of this calculation is to identify the effectiveness of providing fertilizer subsidy for paddy production in Sri Lanka. Accordingly, in 2005 fertilizer subsidy expenditure is similar to 22 % of the total paddy production in

Yala Season which implies that the tolerable level of paddy output in that year is 78 %. This implies that in 2018, gains of cultivating paddy is similar to 78 % if we subtract the cost of fertilizer from the total value of the output. In other words, 28 % of total paddy production has satisfied the requirement of covering total fertilizer expenditure in this year. We also estimated the cost of fertilizer subsidy to produce one kilogram of rice using aggregate data. The cost for *Yala*, *Maha* and total to the country is given in Table 4.

Table 4: Cost of fertilizer subsidy to produce one kilogram of rice

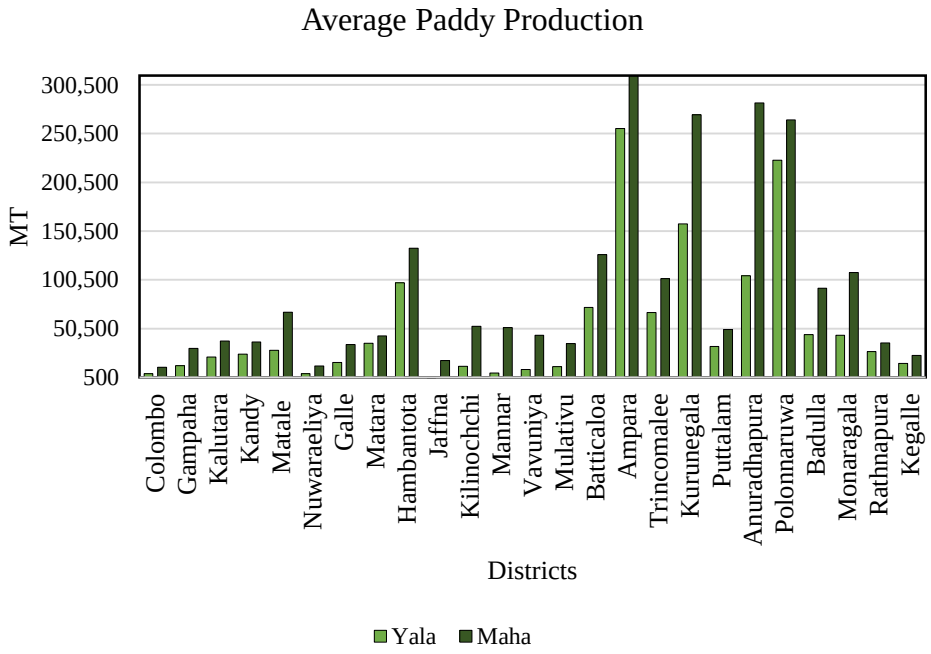
Year	*Yala* (Rs./Kg)	*Maha* (Rs. /Kg)	Both seasons (Rs ./Kg)
2005	8.86	8.78	8.82
2006	8.87	9.00	8.94
2007	9.44	10.30	9.87
2008	7.89	7.80	7.85
2009	8.58	7.76	8.17
2010	7.30	10.32	8.81
2011	6.52	6.52	6.52
2012	10.89	10.17	10.53
2013	4.13	4.83	4.48
2014	9.27	9.13	9.20
2015	7.07	7.46	7.26
2016	18.50	26.55	22.53
2017	16.22	16.53	16.37
2018	11.84	11.53	11.69

Note: Costs are estimated using secondary data

A considerable fluctuation of per unit cost of fertilizer subsidies was noted during the study period. The per unit cost has been significantly

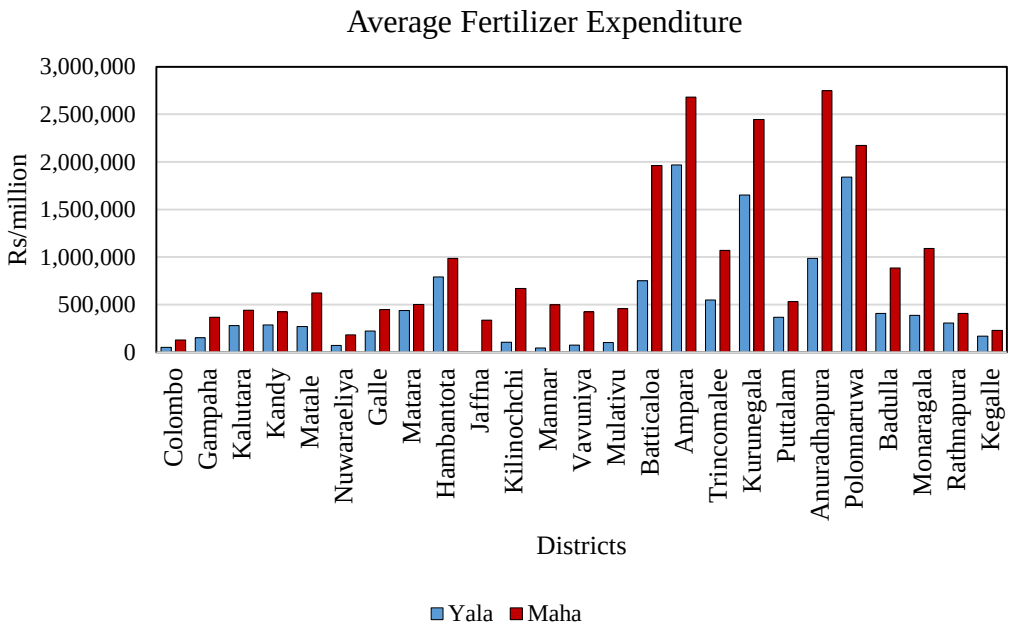
different through the years due to changes in the subsidy amount granted and total paddy yield in the country. Furthermore, spatial analysis of agricultural production or productivity can be very important as it can highlight the problems of production relations on the basis of suggestions by the policy makers. Spatial productivity is generally determined by the productivity of land and productivity of infrastructure related to agriculture. These two factors are interrelated and an attempt has been made to examine the spatial differences using the analysis of the district wise output differences in the country. Therefore, as the next step of our analysis, we obtained the details of average district paddy production and fertilizer subsidy expenditure for 25 districts in Sri Lanka. The calculated district averages for *Yala* and *Maha* seasons are given in Figure 3 and Figure 4. Comparatively, a higher average of paddy production and fertilizer expenditure can be seen in *Maha* Season than *Yala* Season. In both seasons, most of the districts in dry zone have recorded a relatively higher level of contribution to the economy through higher productivity. According to data, a lower average is reported from Mannar, Nuwaraeliya, Vavuniya, Kilinochchi, Gampaha and Kegalle in *Yala* season. According to Figure 3, there were 4 districts with very high productivity category. The major reason for the very high productivity of these areas is the higher average yield values.

Figure 3: District averages of paddy production in *Yala* and *Maha* seasons



According to Figure 4, it is evident that the average fertilizer expenditure is comparatively higher in Ampara, Anuradhapura, Polonnaruwa and Kurunegala in both seasons which also showed the highest production of paddy during the study period. However, the lowest fertilizer expenditure is reported from Mannar, Vavuniya and Nuwaraeliya which is consistent with the lowest paddy yields. Figure 4 clearly shows the spatial variation of fertilizer expenditure among different districts in the country as well as between two seasons. This is due to the variations in the cultivated land and the climate of the districts. Accordingly, relatively higher fertilizer expenditure could be observed in districts of dry zone where around 65 % of the total paddy output is produced in the country.

Figure 4: Average fertilizer expenditure for *Yala* and *Maha* seasons



As the next step of the analysis, we ran pooled OLS (application OLS to panel data without considering the panel identity), fixed effect model and random effect models without controlling the variables. In order to decide the functional form, different models with different functional forms such as linear, log linear and mixed of some log variables with normal variables were tested. It is found that the log model provides a better result in terms of model fit and number of statistically significant variables. Consequently, the log model was used to estimate the parameters of the models. According to the Hausman test, we found that a panel data model of random effects was the most appropriate way to carry out analysis of the relationship between the production and its determinants. Therefore, we used the panel data random effect model as the most appropriate model for analysing the data. Table 5 reports the results of the pool OLS model after controlling different variables.

Table 5: The result of the OLS model

Variables	M1	M2	M3
Fertilizer subsidies (F)	1.001***	0.245***	0.187***
	(0.015)	(0.024)	(0.0210
Cultivated land area (L)		0.823***	0.833***
		(0.025)	(0.021)
D1 = dummy variable			0.005
(1 if *Yala* season, 0 otherwise)			(0008)
D2 = dummy variable			0.134***
(1 if Dry zone, 0 otherwise)			(0.009)
D3 = dummy variable			0.161***
(1 if Intermediary zone, 0 otherwise)			(0.012)
Constant	-4.028***	-0.863***	-0.495
	(0.131)	(0.126)	(0.114)
Observations	672	672	672
R-squared	0.866	0.948	0.962
Adj. R-squared	0.865	0.948	0.962

Note: Standard errors in parentheses***, **, and * denote 1%, 5% and 10% levels of significance respectively.

The results of the random effect model are reported in Table 5. We also estimated the different versions of the models by controlling different variables. Accordingly, M1 includes only the fertilizer subsidy variable and M2 includes the cultivated land area related variables in addition to the fertilizer variable. Next, we include all the dummy variables given by M3. When comparing the results of different models, it is clear that most parameter estimates of all the models are statistically significant, indicating their importance in production of rice farming in Sri Lanka.

Expenditure on fertilizer subsidies variable is significant in all three models at 1 % level of significance. However, when the number of variables is increasing gradually, magnitude of the coefficient value is decreasing. As the final step of the analysis, we estimated random effect model and the results are reported in Table 6.

Table 6: The result of the Random Effect model

Variables	M4	M5	M6
Fertilizer subsidies (F)	0.888***	0.177***	0.170***
	(0.021)	(0.200)	(0.019)
Cultivated land area (L)		0.807***	0.807**
		(0.019)	(0.019)
D1 = dummy variable			-0.010
(1 if *Yala* season, 0 otherwise)			(0.018)
D2 = dummy variable			0.141***
(1 if Dry zone, 0 otherwise)			(0.018)
D3 = dummy variable			0.179***
(1 if Intermediary zone, 0 otherwise)			(0.026)
Constant	-3.060***	-0.214*	-0.238*
	(0.126)	(0.129)	(0.125)
Observations	677	677	677
R-squared within	0.393	0.823	0.823
Between	0.974	0.971	0.986
Overall	0.866	0.948	0.962

Note: Standard errors in parentheses***, **, and * denote 1%, 5 % and 10 % levels of significance respectively.

The results reported in Table 6 provide interesting information about the impacts of government subsidies on paddy production in Sri Lanka. The fertilizer subsidy variable is significant in all specifications of the models and takes the expected sign. However, as expected, that the role fertilizer subsidies are gradually decreasing when more variables are introduced into the model. The coefficient value of this variable becomes gradually lower while at the same time it becomes more significant. We also investigated the correlation between rainfall and the total paddy production in the country during the study period[3]. It was found that there is a strong positive relationship between the rainfall and *Maha* season's production, the correlation p value 0.012 is less than significant level of 0.05. It was also found, a positive relationship between rainfall and *Yala* season's production, the correlation p value 0.082 is greater than the significant level of 10 %. This shows the importance of planning the season according to the weather forecast. It will contribute significantly to increase the paddy production in both seasons in the country.

Table 7: Estimated benefits cost ratio based on MP of fertilizer expenditure

Year	Benefits (Rs. / Million)	Cost (Rs. / Million)	Benefit/ Cost (Ratio)
2005	11,858.88	29,000	0.409
2006	11,190.08	30,000	0.373
2007	11,556.16	30,000	0.385
2008	14,915.47	30,000	0.497
2009	17,170.56	30,000	0.572
2010	17,930.88	30,000	0.598
2011	15,721.2	30,000	0.524

[3] As district wise rainfall data is not available in the country, that variable was not included into the econometric model.

2012	17,237.88	36,456	0.473
2013	18,295.2	19,706	0.928
2014	13,388.76	31,802	0.421
2015	19,083.24	35,000	0.545
2016	17,503.2	37,500	0.467
2017	9,436.68	38,750	0.244
2018	15,562.8	40,000	0.389

Note: Benefits were estimated using yearly average price of paddy

As the final steps of the analysis, we estimated the total benefits (aggregate changes of the production) of providing fertilizer subsidies to farmers using the estimates derived from the Random Effects model. The coefficient of the fertilizer subsidy variable (that shows Marginal Product-MP of fertilizer expenditure) and average price of paddy (per Mt) in each year were used for this purpose. We first estimated the value of MP of fertilizer expenditure and then the value of total production of the paddy which was generated due to the fertilizer subsidies in the country is estimated. This value of total production of paddy which generated due to the fertilizer subsidies gives us the total benefits generated by the fertilizer subsidies given by the government. As we have the costs information related to the subsidies, cost can be compared with the benefits which show in Table 7. It becomes clear that benefit cost ratio is less than one implying benefits of providing fertilizer subsidies is always less than the costs when considering the marginal contribution of government expenditure on fertilizer subsidies during this period. The highest benefit cost ration reported in 2013 is (0.92) while the lowest is reported in 2017 which is similar to 0.38 as aggregate level.

Conclusion and Policy recommendations

The study evaluates the Sri Lankan paddy sector performance under the fertilizer subsidy expenditure from year 2005 to 2018. According to the analysis, it is evident that the performance of paddy sector in the past 14 years has been fluctuating over the years as well as among the districts. A similar fluctuation is found for the fertilizer subsidy expenditure as well. On average government expenditure on fertilizer subsidies as a percentage of total value of the paddy output is 22 % during the study period. It was found that these averages were slightly different between seasons and districts. According to the analysis, it is evident that the amount of fertilizer subsidy expenditure has contributed to increase the paddy output in the country by 17 % on average. Given the budgetary constraint from unrecoverable expenditure on the subsidies, that has forced the government to reduce its future allocation for agricultural development has not generated sufficient benefits to rationalise the subsidy program in the future. Therefore, while changing the focus of the fertilizer subsidies in Sri Lanka, it is required to take necessary steps in order to increase the productivity of paddy farming.

The district-wise analysis of the paddy yield helps us to understand relative competitiveness of paddy production among different districts. Accordingly, it is clear that Anuradhapura, Polonnaruwa, Ampara, Kurunegala and Hambantota are relatively better performing districts in terms of total production and productivity. Further, the calculation done in order to estimate the benefits and costs of fertilizer subsidies to identify the effectiveness of providing fertilizer subsidy for paddy shows that benefits of it are always less than the costs of it. Finally, the results of random effects model show the importance of land, fertilizer subsidies and other factors in modelling paddy output in Sri Lanka. It is clear that fertilizer is an essential input in paddy farming hence, fertilizer related competitive policies are essential for any national effort aimed improving agriculture productivity in the country. Poor planning, shortage of fertilizer and weak incentives could result in failure to achieve the objectives of the subsidy scheme. Therefore, the results of this study can be used to improve the efficiency and effectiveness of fertilizer subsidy program in increasing the productivity and promoting paddy output in Sri

Lanka in the long run. In general, Sri Lanka has also experienced market imperfections due to imperfect or incomplete markets and government interventions in the paddy sector for many years. The long-term costs of such market imperfections can be substantially large. Therefore, it is required, to rethink the existing policies for planning a sustainable and competitive paddy farming sector in the future. Moreover, the government can provide necessary incentives to increase the organic paddy farming in the country which will contribute to reduce the negative environmental impact of agriculture. In this context, small scale individual farming practices in organic farming is needed to be improved and an integrated management system has to be implemented as an important strategy to make it success in the country. Reducing usage of chemical fertilizers will reduce chemical induced diseases such as CKDU and save valuable foreign exchange used in importing chemical fertilizers while reducing government expenditure on subsidies given to farmers at present.

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Brinjals and Drumsticks: Gendered Diaspora Tourism Experience of Sri Lankan Origin Tamils in Norway

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Abstract

Sri Lanka's tourism sector was affected by nearly three decades of war, which ended in 2009. In the post-war context, diaspora tourism became significant; however, to date, it has not received much research focus. Aiming at filling this research gap, the present study explores the tourism-related decision making of Tamil diaspora members living in Norway. The paper examines the role of place attachment and emotion in this decision-making. The 26 years of war between the Sri Lankan government and the Liberation Tigers of Tamil Eelam (LTTE) forced many Tamils to leave Sri Lanka. Since the war has ended, diaspora community members in Norway have returned to visit their homeland in large numbers. The study confirms that their decision-making of tourism is highly influenced by the post-war peaceful environment, personal economic situations and, more importantly, engagement in re-establishing, renewing and strengthening place attachment. The study also shows that, by re-establishing these links, the Tamil diaspora community contributes to strengthening the "diaspora Tamil" identity in both Sri Lanka and Norway. The study concludes that the end of the war has given these a space to re-negotiate their place attachment, strengthen their emotional links to their homeland and re-confirm their sense of belonging.

Keywords: Diaspora tourism, Emotions, Norway, Place attachment, Sri Lanka

Introduction

Sri Lanka's development has stagnated since the 1980s, due to the three decades (1983–2009) of armed conflict between the government and the Liberation Tigers of Tamil Eelam (LTTE). Although the war affected all Sri Lankans in many ways, those living in the north and east were particularly the most impacted. Understandably, the tourism sector was among the various economic sectors affected by the war, with the result that Sri Lanka dipped in the competing tourism market in Asia (Fernando et al. 2013). Before the war, the tourism sector had contributed significantly to the local economy, providing foreign exchange and employment opportunities for thousands of people, both directly and indirectly. As the war destroyed local attractions and provided less security, the number of incoming tourists decreased drastically. Consequently, from 1983 to 2009, the contribution of tourism to the local economy recorded a fluctuating trend, whereby the number of tourists rose in times of peace and dropped during the times of war. However, with the end of the war in 2009, Sri Lanka's tourism sector began to boost and its contribution to the local economy once again recorded a positive trend. In 2017, tourism was identified as the third largest foreign exchange earning sector, recording a 14.8% contribution to the national economy (Sri Lanka Tourism Development Authority 2017).

Although, it is difficult to estimate the number of diaspora tourists arriving in Sri Lanka each year (as no such formal data are available), it is evident that, since the end of the war, they have arrived in a large number. It is also important to point out that, within the Sri Lankan post-war context, the connection between the diaspora community and tourism has started to gain attention; even still, this connection remains underrepresented in the tourism literature. Fernando et al. (2013) note that few studies have attended to the wartime experience of Sri Lanka's tourism sector and its post-war revival. Accordingly, drawing on qualitative interviews with first generation Tamil diaspora members living in Trøndelag commune, Norway, this study investigates emotion and place attachment among the community.

The paper aims at uncovering the role of place attachment and emotion in decision making around tourism among the Tamil diaspora members. Drawing on in-depth interviews (telephone and face to face), ten diaspora members living in Norway, it attempts to answer: What factors contribute to the homeland visits of these diaspora members, and how do first generation diaspora members negotiate place attachment and emotion by visiting their homeland?

Diaspora, place attachment, emotion and tourism

The attachment to homeland among the diaspora community is negotiated and re-negotiated in their everyday life through different ways. Sivamohan (2005) claims how women of the Sri Lankan diaspora living in Western Europe through 'different cultural modes of expressions' see their world and their 'homeland'.

Li and McKercher (2016) note the growing importance of migrant or diaspora tourism in the tourism industry, while listing different terms used to explain this phenomenon. In tourism research, migrant persons' travel to their homeland is described using many terms, such as, "diaspora tourism" (Butler 2001; Coles and Timothy 2004; Huang and Chen 2018), "ethnic tourism" (Fourie and Santana-Gallego 2013), "personal heritage tourism" (Timothy 2007), "homecoming" (Huang, Ramshaw and Norman 2016) and "roots tourism" (Basu 2004). Although, all of these terms are used in the literature, each has a specific meaning associated with an individual diaspora identity (Huang, Ramshaw and Norman 2016). From the perspective of the persons engaged in such tourism, motivation and decisions related to travell back home are influenced by various factors (Huang and Chen 2018; Graf 2017). Cohen (1997) classifies diaspora members according to five categories: victim diaspora members, imperial/colonial diaspora members, labor/service diaspora members, trade/business/professional diaspora members and cultural/hybrid/postmodern diaspora members. These diaspora communities evolve in different times, in different parts of the world, influenced by local and global socio-economic and political situations.

The improvements in global travel, tourism and technology have enabled diaspora members to visit their homeland, whereas previously such visits

were difficult or impossible due to economic, political and geographical reasons (Huang et al. 2016). Improved communication technologies have provided diaspora communities with wider access to modern media to refresh their memories of their places of origin and renew their bonds with persons there. Subsequently, current developments in the tourism sector have made physical visits easier than ever. However, it is important to consider that, more than improvements in communication technology and global travel, diaspora members' bonds to their places of origin play a crucial role in their travel decisions. By visiting their homeland, they can directly experience the place or places where they once lived, renew acquaintances with friends and relatives and engage in other socio-cultural and religious activities of value.

In tourism studies, personal bonds to places have become an important and growing area of research. In particular, diaspora members' bonds to places have been looked at through the concepts of transnationalism (Graf 2017; Huang 2018) and place attachment (Kamalipour et al. 2012; Lewicka 2011). Huang et al. (2018) point out that, relative to previous migrants, modern migrants are more connected to their homelands. They further elaborate that these connections can be viewed through the concept of transnationalism. Through transnationalism, migrants are connected to their homeland in different ways, and categories of transnationalism (related to, e.g., political, economic, religious, civil and sociocultural aspects) can relate to a complex array of causal factors (Huang et al. 2018).

Personal bonds to places have also received scholarly attention in the field of human geography, where such bonds are explored through the concepts of a sense of place (Hay 1998a; Garbin 2008; Massey 1991, 2010), place identity (Proshansky et al. 1983) and place attachment (Kamalipour et al 2012; Lewicka 2011). Within cultural geography, place attachment can be defined as the bond between people and places (Herendaz et al. 2007), and it is thought to be closely related to emotion (Low and Altman 1992). With globalization, threatening environmental issues and increasing mobility across the world, place attachment has become an interesting field of research (Gustafson 2006; Scannell and

Gifford 2010). Some researchers locate place attachment within the broader context of the changing physical and social dimensions of human–environment interactions (Fried 2000). Scannell and Gifford (2010) synthesize a number of empirical studies that have contributed to broadening the concept of place attachment. In an attempt to combine the scattered literature on place attachment that would contribute to theoretical development of the concept, they propose a three-dimensional framework labeled the "tripartite organizing framework"; this framework is the underlying influence for the theoretical and analytical aspects of this paper.

Scannell and Gifford (2010) use the concepts of persons, psychological processes and places to categorize the multidimensional nature of places. They define a person as an actor and use this concept to answer questions about the person who is attached and how attachment takes place at individual and group levels. Next, they apply the concept of psychological processes to show how individuals and groups relate to a place and to highlight the nature of the psychological interactions that occur in the environment. Here, they use the terms affect, cognition and behavior to operationalize the concept of place. By "affect," they refer to a person's emotional link with a place, which can involve both positive and negative emotions (Manzo 2005). Cognition – involving memory, knowledge, schemas and meaning – is used to demonstrate how people are connected to a place. They also examine "behavior," or action to maintain proximity to and to reconstruct a place. Their next category of analysis relates to place, itself. Here, the authors explain place at various scales (home, city, world) and with respect to social and physical attachments. Social attachment to a place is expressed through community ties, belongingness and familiarity with neighbors (Li and McKercher 2016). Physical attachment is connected to the time lived in a place, plans for return and resettlement in the context of displacement. It is also associated with symbolic meanings given to a place, such as climate.

The foregoing discussion affirms that place attachment is a complex term associated with an individual or community's bond to a place. It is

strongly connected to emotion. Anderson and Smith's (2001) editorial introduction to emotional geographies in the *Transactions of the Institute of British Geographers* highlights the importance of emotion and affect in understanding how the human world is constructed and lived in (2001:7). Within diaspora communities, in particular, place attachment is lived through emotion in everyday life.

Although, place attachment has gained considerable attention in tourism research, far less attention has been paid to the emotional aspects of tourism (Hosany et al. 2017). However, the study of tourists' emotion towards particular places (in which place attachment plays an important role) is beginning to receive greater attention (Elle Li and McKercher 2016; Hughes and Allen 2010). Scannell and Gifford (2010:1) reflect that the study of place attachment through the lens of emotion provides a space in which to understand the distress and grief expressed by those who are forced to leave a particular place; hence, it is particularly relevant to mobility studies. It is important for us to gain a deeper understanding of tourists' attachment to places and emotional experiences, as such insight can improve tourism development. With this background in mind, the following section presents the context of the study.

Research context: Tamil diaspora community in Norway

According to Cohen's (1997) categorization of diasporas, Tamil diaspora members living in Norway are victims or refugee diaspora members. Specifically, Tamil natives who have migrated to Europe and other Western countries due to victimization are associated with post-independence language policy, irrigation schemes implemented in the 1960s and 1970s, the 1983 ethnic conflict and the war that followed this conflict (International Crisis Group 2010). As a consequence of the war, many people in the north and east became internally displaced and a reasonable number left the country to seek asylum in developed countries in the global north. There, they formed a large diaspora community. Although clear statistics are not available, the war forced many Tamils to migrate to European countries – particularly the United Kingdom,

Germany, Switzerland, France, the Netherlands, Italy, Norway, Denmark and Sweden.

According to Reevs et al, (2013) the Tamil diaspora community comprises the 13th largest immigrant community in Norway. These immigrants have been arriving in large numbers since 1985. Many arrived in Norway as asylum seekers – a category in which males outnumbered females (ibid.). According to Fuglerud (2001), the Tamil diaspora in Norway comprises different social and political groups, representing various caste identities. Fuglerud (1999) divides the Tamil migrants in Norway into three categories. The first category includes workers who migrated to Norway between 1968 and 1980. This group was closely connected to the CeyNor development assistance project in Jaffna, focused on fisheries development. The second category includes mainly LTTE activists who were granted refugee status. The third category includes those who left Sri Lanka after 1986, seeking asylum. The first Tamils to immigrate to Norway were predominantly single men who worked in fishing, cleaning companies and restaurants. They presented a distinct character within the Norwegian labor market. Most of the migrants employed in menial jobs saved enough money to pay for their family members to join them in Norway. However, as a group, the Tamil migrants in Norway had very complex social, economic, caste and class backgrounds, relating to their exile from Sri Lanka (Reevs et al (2013).

Most of the early immigrants sought employment in Norway's fisheries sector in the north. Grønseth (2018), in a study of funeral rites among the Tamil diaspora community, notes that many of the early immigrants who arrived in early 1980s settled in fishing villages in Finnmark (on the northernmost coast). The local demand for laborers in the fishing industry at that time (1980–2000) attracted more Tamils to Finnmark. Grønseth (2018) points out that, later, especially after 2000, Tamils migrated to the south of Norway due to changing perceptions and opportunities related to employment, education and the need for stronger social networks.

Fuglerud and Engebrigtsen (2006), when comparing social capital and social networks between the Somali and Tamil diaspora communities in

Norway, point out the strong network of support among the Tamil diaspora that contributed to their becoming a model immigrant community. Although, they identify the Tamil diaspora community as well-integrated in Norwegian society, they also note that the community seeks to preserve its Tamil identity. Gherhaz (2010), when describing group formation among the Tamil diaspora community, it identifies two functions: one facilitating group formation through dance, music and language classes relating to the Tamil culture; and the other facilitating separation, relating to more politically oriented lobbying work for the homeland.

For members of the Tamil diaspora community who sought asylum in other countries during the war, socio-economic links with their homeland were affected. Although they may have maintained close links with their homeland through modern communication, many were unable to visit Sri Lanka, due to their asylum status. Thus, many members of the Tamil diaspora community only met family members in India or Malaysia.

Methods

Squire (1991), when discussing the interplay between geography and tourism studies, argues that the study of tourism can provide a good opportunity to examine sociocultural questions with the help of cultural geography and qualitative methods. This paper reports rich qualitative information gathered from ten diaspora members living in the northern coastal city of Trondheim in Norway. The author, who has done her postgraduate studies in Norway, has lived there for nearly eight years. This particular work was done in 2018, during her postdoctoral research in Norway. The author shares the same linguistic identity as the informants, even though she has a different Sri Lankan ethnic identity. The motivation for the research arose from informal chats with a few female diaspora members, whom the author met on buses, at temples and in supermarkets. Though the author was able to approach four interviewee informants directly, the majority of the informants were contacted via a PhD student with close links to the Sri Lankan diaspora

community in Trondheim and who shares the same linguistic and ethnic identities as the informants.

Although approaching the interviewees who were known to the author was easy, approaching the others posed some issues. As most of the approached respondents had an asylum background, some were suspicious of the author's identity. While nearly 23 respondents were approached, only ten agreed to the interview. Among the ten respondents, two agreed only to a telephone interview. The respondents included six women and four men from the first generation diaspora community (diaspora members with both parents born in Sri Lanka). Participants were generally affluent and had financial resources to travel to Sri Lanka. All owned their own houses and an extra house, which they rented to earn extra income. Their children were married and lived separately from them, except in the case of two women, who lived with each of their son's family. In general, all respondents had achieved a good education prior to their migration. However, they had not continued their studies after migrating. Table 1 outlines the respondents' basic profile.

Table 1: Profile of informants

Case number	Age	Sex	Number of Years living in Norway	Employment status	Number of times visited Sri Lanka
01	60	Male	30	Bus driver	3
02	54	Female	29	Housewife	5
03	48	Male	28	Chef	2
05	71	Male	34	Retired bus driver	5
06	50	Female	15	Housewife	1
07	53	Female	17	Nurse	2
08	49	Male	17	Milk factory worker	1
09	63	Female	38	Commune worker	2
10	55	Female	19	Commune worker	2

Source: Fieldwork 2018.

The research methodology involved in-depth semi-structured interviews and telephone interviews that asked for personal information such as age, family details, employment, place of origin, memories of place of origin and feelings about belonging. Information on place of origin is not revealed in this paper, in order to respect informants' anonymity. The interview guide also included questions about the respondents' identity in Norway, connections with their home country, travel to their home country and nostalgic memories. After conducting the interviews, the author analyzed the scripts and selected seven for analysis. The present study reports interesting stories of individual emotion and place attachment amongst these diaspora members relating to their decisions around tourism. For analytical purposes, their stories were categorized according to the main themes that emerged in the interviews.

Findings

In the following section, informant narratives are presented to facilitate an exploration of the factors that contribute to homeland visits and the examination of how diaspora communities use tourism to negotiate place attachment and emotion towards their homeland.

Social ties

During the war (1983–2009), informants' connection with their families and friends in Sri Lanka practically died. Informants expressed that, following the war, they looked forward to visiting their friends and relatives who remained in their homeland. When they made decisions to visit their homeland, they timed their visits to coincide with a wedding or social, cultural or religious activity in their home village. A female nurse who had been living in Norway for 17 years expressed:

> *Since I came to Norway, I have visited my village only twice. I have my close relatives still living in the village. I went there after the war. I went twice. Once we went to attend a wedding of my cousin. In Norway, although I have many family members, relatives and friends whom we meet during weddings and other ceremonies, nothing can replace a wedding ceremony in the village. The wedding ceremonies we arrange here in Norway look*

> *so artificial. In a wedding in the village, we can meet our old school friends, neighbors, relatives and villagers. We can follow all our wedding traditions. I feel I am back in my home. I enjoyed my stay and I want to go again.* (Female nurse aged 53)

The above account shows that community ties are an important aspect of social attachment to a place. Although the Tamil diaspora community in the study town has a well-established social network in Norway that plays an important role in weddings, funerals and other personal events (e.g., birthday parties and puberty celebrations), the above narrative reflects how the diaspora members may view such events. Namely, the informant does not feel that these Norwegian events are natural and on par with the weddings that take place in her home village. Her narrative also shows that attachment to a place is related to sociocultural events that occur at that place and the people (relatives and friends) with whom one interacts at that place (Scannell and Gifford 2010).

Religious ceremonies

Place attachment is also reflected through memories (Lewicka 2010) – in particular, memories of events that created closeness and connection (Hay 1998). For diaspora members, such memories are important considerations when making decisions about homeland visits. A housewife reflected:

> *I have travelled to Sri Lanka five times since I came here: twice before 2009 and three times after 2009. I visit during the* Nallur Kandaswamy kovil thiruvila *[festival].*[1] *When I was in my village, I attended this event several times. Whenever we plan to visit Sri Lanka, we visit during that season.* (Female housewife, aged 54)

Mazumdar and Mazumdar (2004) explain how religious and cultural place attachments are important characteristics of individual and community attachments to places. Cultural and religious events create bonds for certain places as they are unique in particular place contexts only.

[1] Nallur Kandaswamy is an important Hindu temple located in northern Sri Lanka, in the district of Jaffna. The *kovil* festival runs for 25 days and attracts many local and foreign tourists.

Physical environment

A retired bus driver who had been living in Norway for 34 years was the oldest amongst the interviewees. Since migrating to Norway, he had travelled to Sri Lanka several times. He first visited his hometown during a ceasefire in 2002, and had returned to Sri Lanka five times since the end of the war. He was planning another trip in February 2019. When asked about why he visited Sri Lanka so frequently, he responded:

> *When I came to Norway, 30 to 35 years back, I worked in a fish factory in Finnmark. I worked there for a short time, as I could not cope with the extreme cold. I lived there for three years and I became sick. Then, I came here and lived with a relative. I was able to bring my family here after seven years. I always wanted to visit my hometown to enjoy the beach, wind and weather. But it was impossible due to the war. Besides, I did not have enough money to travel at that time. Now, after my retirement, I visit Sri Lanka every two years. I have few relatives living in the village. I stay in a hotel, when I go to Sri Lanka. But I enjoy eating brinjals and drumstick curry at my sister's home.* (Male retired male bus driver, aged 71)

Scannell and Gifford (2010) argue that, amongst the physical factors that contribute to place attachment, climate is very important. In addition, in the above narrative, physical landscape also contributes to a sense of place attachment. Furthermore, the interviewee mentions two important vegetable dishes in traditional Tamil cuisine. Finally, it is important to note that, while other studies of diaspora tourism have found that the frequency of visits to one's homeland diminishes with age (Hughes and Allen 2010), Tamil diaspora members show the opposite trend. This could relate to the protracted war that prevented most of them from visiting their homeland over a significant stretch of time.

Fear and hope

Despite having lived in Norway for 38 years, a 63-year-old female commune employee mentioned:

> *I have visited my village only twice and only after 2009. I was scared to go during the war. My relatives who visited the village*

> *after the end of the war told me many interesting stories about the village. This made me think of my childhood school, friends and relatives. As many of my relatives are in Canada, Germany and Switzerland, I usually visit them during summer holidays and Christmas holidays. I will retire soon and I am planning to visit my village next summer along with my cousins in Canada and Switzerland*. (Female commune employee, aged 63)

This particular interviewee claims that she has not visited her homeland since the end of the war. This decision has been influenced by two factors: first, as her relatives live in neighboring countries, she has not felt the need to visit her homeland; and second, security conditions in her homeland have not been good. Thus, her attachment to place was altered by the security situation, which created fear (Manzo 2005). However, the end of the war created a safe environment in which she could visit relatives and friends, possibly triggering place attachment facilitated by post-war reconstruction of a familiar place (Scannell and Gifford 2010). During the interview, she was positive about a peaceful future in her homeland and hoped to visit it often.

Hate and fear

The milk factory worker and the chef, who were the youngest interviewees, had visited Sri Lanka one and two times, respectively, since migrating to Norway. Each had a different reason for visiting their homeland. The milk factory worker explained:

> *I came to Norway in 2001. I worked closely with the* iyakkam[2] *and lived outside my village. I was under the surveillance of the Sri Lankan security forces. That is the reason I came here. I don't have pleasant memories of my village, which was severely affected by the war. My mother passed away. I don't have any close relatives in my village now. I have visited Sri Lanka only once with my family. I want to show my children their roots. If I have enough savings, I will take my children next year. Only thing my children want is to find a comfortable place to stay in the village. I can see many tourist places in the village. However,*

[2] *Iyakkam* is a Tamil word used to represent the LTTE.

> *people need a lot of investment and skills to develop tourism there. It is a good industry now.* (Male milk factory worker, aged 49)

As Manzo (2005) explains, relationship with a place can also represent feelings of hate and fear. During the war, people living in war-affected areas experienced traumatic events that left deep and lasting scars. However, despite the horror of these experiences, many of their sufferers (and among them, diaspora members), do not want to forget their roots. Although they may practice their Tamil identity in their new national context each day, they strongly prefer to maintain physical links with their homeland. These attitudes were strong among the interviewees:

> *I have visited Sri Lanka twice since the end of the war. I have many relatives in Europe, Canada and Australia. Visiting our homeland is very important for our identity. The Tamil diaspora community wants strong links with the homeland, especially the north. We support many poor families who were affected by the war. We will continue that and for that we need to be in touch with them. Our actions make us more attached to our homeland as we can visit without any fear now.* (Male chef, age 48)

Gherharz (2010) claims that, among Tamil diaspora communities, strong homeland attachment prevails; this is identified as a strategy for maintaining Tamil identity. Although Tamil diaspora members employ different mechanisms – such as media, businesses, political and cultural organizations, cultural events and dance and language classes – to preserve their homeland identity, physical visits are particularly effective in strengthening their bond to their place of origin (ibid.). At the same time, it is pertinent to note that, due to technologically mediated proximity; place attachment is not confined to the hometown, but expanded to the country of origin, as mentioned in the above narrative (Li and McKercher 2016).

Emotional belonging to the homeland

Although the diaspora community's direct ties to the homeland were disrupted during the war and many of the wartime experiences caused trauma, the community works hard to maintain a Tamil identity. Emotionally, the community members feel they belong to Sri Lanka.

> *I have lived half of my life in Norway. I still feel I am a Sri Lankan Tamil. I came to Germany first in 1980 and then moved to Norway. I have visited Sri Lanka three times, once after the war. I still cherish those days when I was in Sri Lanka. I felt like I got my village identity naturally when I was there. I visited my old friends who looked much older than I. I also visited my relatives and friends. Walking in the paddy fields brought my youth memories back. I cannot visit Sri Lanka often due to my poor health. But every day, I think of my life in my village. I worked as an agricultural officer. I had good recognition in my village. My father was a school teacher; we also had land, house, cows and goats. Although I lived in a remote village and I cannot compare its situation with the city I am living now, I felt more comfortable in my village. Here in this city, I always have the feeling that I do not belong here.* (Male bus driver aged 60)

During the interviews, informants reported that, when they went to Sri Lanka – and, more importantly, to their former villages – they felt a sense of belonging. However, they also mentioned that some villagers did not see them as part of the village community. This made them uneasy, as they were excluded by their own villagers. These emotions were expressed in the interviews immediately after their return to Norway. A homemaker who had just returned from a one-month stay in Sri Lanka welcomed me in a happy mood. When asked about her decision to visit Sri Lanka, she replied:

> *I have visited Sri Lanka once since I came to Norway. I was pestering my husband to arrange a trip to Sri Lanka since the end of the war. But we could not make it. We could not afford a trip for five people (my family) as my family is a single earner family. My sons got admissions to university and now we have to spend*

> *only for our daughter. So we decided to go to Sri Lanka. I went with my husband and daughter. It was such a wonderful trip. When I saw my home, I broke down in tears. It was occupied by our caretaker. I missed many things: my garden, the well where I used to draw water from, the kovil … it was very emotional for me to see my relatives and friends. This memory will last for a long time. Although I have visited our relatives in the UK during summer holidays, visiting Sri Lanka was always a dream. Now that dream became a reality.* (Female housewife, aged 50)

The above narrative reflects how eager the interviewee was to visit her homeland and how worried she was that she might not be able to visit. Many women in the Tamil diaspora and other immigrant communities who do not work have a very strong attachment to their place of origin. For many of them, staying inside a small house without much outside interaction only increases their attachment to their homeland, over and above their feelings for their country of exile.

Discussion and Conclusion

The narratives of the diaspora members illustrate that place attachment and emotion play an important role in decision making around tourism. At the same time, local situations in the place of origin have a significant impact on the choice of tourism destination. Most of the interviewees decided to visit their homeland only after the end of the war, as it was only at this time that they could easily travel back to former war-affected areas, which had previously been abandoned. Furthermore, after the war, local tourism infrastructure (i.e. transport, hotels, restaurants) in war-affected areas improved rapidly. Such improvements, especially with respect to security, attracted many diaspora members to return to visit their homeland. The narratives also revealed that the selection of tourism destination may be affected by individual socio-economic concerns. For example, among the interviewees, the economic costs involved in travelling to Sri Lanka were identified as important limiting factors. It was also evident that the interviewees linked their selection of tourist destination to friends and relatives who had immigrated to other countries. When such persons lived in nearby countries, the interviewees

visited them rather than returning to Sri Lanka. This was rational during the war, when mobility restrictions were strictly followed by the Sri Lankan army and, in some areas, by the LTTE.

Although the peaceful environment which prevailed before 2019 Easter attack[3], was said to be an important factor in decisions around tourism destinations, place attachment and emotion also played crucial roles. Place attachment has been identified as an important feature of immigrant communities, and the narratives exemplify that claim. During the war, place attachment and emotion among the Tamil diaspora community in Norway was mainly negotiated through cultural programs such as dance, language schools, music and economic and political organizations, as many community members could not visit their homeland physically. Thus, the "homeland" they established in Norway through cultural, economic and political practices was influential in maintaining their place attachment. The narratives of the informants revealed that through their visits to home country they are also trying to reconnect with the past and re-establish their sense of belonging.

The end of the war provided opportunities for Tamil diaspora members to re-establish their place attachment and emotional links to their home villages. Hence, many visited Sri Lanka at and after that time. The narratives show that their decisions to go to Sri Lanka were influenced by the various ways in which they were connected to their villages and homeland. The tripartite analytical framework introduced by Scannell and Gifford (2010) provides an important tool to capture the various dimensions of place attachment expressed by the informants in their decision making around tourism.

The narratives reveal the rich diversity of the interviewees' relationships to place. They also show that attachments to places can be negative or positive, or even dynamic, in line with changes taking place at global and

[3] This article was written and submitted before the 2019 Easter attack in Sri Lanka. It must be understood that the Easter attack and the present COVID-19 pandemic have caused considerable damages to Sri Lankan tourism sector. As global tourism is also affected by COVID-19 pandemic, diaspora visits to homeland will be very limited. The 2019-Easter attack and COVID 19 pandemic situation have to consider as a crucial factor in Sri Lanka's tourism.

local levels. For example, post-war development, globalization, technological advancement and tourism growth has significantly influenced diaspora communities' attachments to places. Moreover, by visiting their homeland, Tamil diaspora members in Norway attempt to strengthen their "diaspora Tamil" identity in both Sri Lanka and Norway. An important finding of this research is that northern Sri Lanka has huge potential for tourism development. While the focus of this article was not on the contribution of tourism to the local economy, one narrative noted the importance of improving tourism to cater for the needs of the diaspora community. This finding has major policy implications for the development of tourism in previous war-affected areas.

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Modern Volunteerism in the Context of Community Work of CBOs[1]: Is It another Form of Community Engagement?

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Abstract

Based on the author's[2] experience and field observations in community work and volunteering practice with Community-based Organisations (CBOs), the proposition that the new activism of modern volunteering is another form of community engagement is discussed in this paper. The author identifies task-centred and connection-centred volunteering as two forms of modern volunteering that the CBOs apply in their work in communities. The first form of volunteering does not promote active community connection and engagement because the volunteer action is very-much task-oriented, described, directed, controlled and supervised by the CBO. The latter however promotes a more versatile and reciprocity style connection in which all participants, volunteers, CBO and community, are actively, and almost equally, involved in all aspects of volunteering action. It generates an enabling community environment where everyone is closely connected among each other, and to internal and external community networks and institutional structures. It facilitates the work of CBOs to generate maximum positive outcomes of their work which benefit the wellbeing of entire community. Moreover, such a model of volunteerism also seems to be promoting an effective community engagement by which means the conditions are created for higher level of social capital to be accumulated within communities.

Keywords: Volunteering and Community Engagement, Task-centred Volunteering, Connection-centred Volunteering

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Introduction

The idea that modern volunteering is a form of community action, which connects people together and promotes and generates community benefits has already been widely recognised and documented. It has also been written that when the community members are closely connected with each other, communities are strengthened, individual and community benefits increase and people have better personal wellbeing outcomes. This understanding of the community benefits of volunteering informs the practices of Community-Based Organisations (CBOs). It seems to be guiding the actions of CBOs in the communities maximising the positive outcomes of their community actions for the benefits of individuals, families and communities. The practice experience of the author as a professional social worker with CBOs in community work is that, this new understanding of modern volunteerism has enabled many CBOs to move away from the traditional forms of volunteering, which focuses very much on involving volunteers in more direct service delivery-oriented tasks, to a form of community action oriented volunteering, which promotes community connection and engagement (Gamlath, 2017 and 2018). It seems that such a move enables transforming the work of CBOs and connecting communities into volunteering action alongside the volunteer and organisation.

This paper aims to discuss whether such an approach to volunteerism in the context of community work of the CBOs has become an effective form of community engagement. The proposition is that if CBOs apply volunteering in their work with a people centred meaning, moving away from traditional task-centred and service delivery orientation, volunteering itself simply becomes a successful strategy for an effective community connection and engagement. It will then, create conditions which promote healthy connections between CBOs and community, enable proactive community participation in local level community organising and development, and facilitate accumulation of higher level of social capital, which in turn produces better wellbeing outcomes for the entire community itself.

The discussion is undertaken as a "reflexive and reflective practice based narrative presentation", for interpreting information and deducting inferences from practice, a widely applied technique in research-informed practice in professional social and community work (Payne, 2014; Yegidis, Weinback and Myers, 2012; Hardwick and Worsle, 2011; Gray and Webb, 2009; Trevithick, 2005). The information, which is qualitatively presented and interpreted, is drawn from the author's extensive field practice experience with a range of CBOs of different scale as a professional social work practitioner. Some inferences are substantiated with the references to secondary sources. The key implication emerged in this discussion is that with the role of connection-centred volunteering applied by the CBOs in their community work, volunteering itself becomes another form of successful community engagement, which promotes higher level of social capital accumulation and enables proactive community participation in CBO activities from which the community itself benefits as a whole.

New thinking of community engagement

The wide-spread understanding of the key principle of community engagement is that, it guides community action to help people make connections, build and use skills, learn from other members of the community, and widen networks, (Ife, 2006; Kenny, 2006; Cox and Pawar, 2006; Pawar, 2014). From an organisation perspective, it describes how the organisation builds relationships with community members promoting connection, civil society and social capital so that the term *'community engagement'* (emphasis added) itself suggests a two-way interaction on an ongoing basis (Hampshire and Healey, 2000).

From where have community engagement principles come? Is there a close connection between the empathic way of community engagement and social capital accumulation? The foundation of this thinking can be seen in the works of Pierre Bourdieu (1986), James Coleman (1988) and Robert Putnam (2000, 2001). Bourdieu identifies capital under three different forms namely, economic capital, cultural capital and social capital, and defines social capital as the sum of the resources, actual or

virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalised relationships of mutual acquaintances and recognition (Bourdieu and Wacquant, 1992). In a different view, Colman (1988) sees social capital as a resource based on trust and shared values, and develops from the weaving-together of people in communities. Colman (1988) also saw social capital as a public good where the action of individuals benefits the whole, and conceptualised social capital as a collective asset of the group. According to Putnam (2000), which is widely regarded as the most popular confounded theoretical and methodological presentation that influenced much of the later work on the concept, social capital is a public good, the amount of participatory potential, civic orientation and trustworthy connections among individuals, social networks and the norms of reciprocity and trustworthiness that arise from them. It refers to features of social organisation and facilitates action and cooperation for mutual benefits. Putnam's work significantly differs from Bourdieu and Colman as his conceptualisation elevated the idea of social capital from a feature of individuals to a feature of large population aggregates as a collective trait functioning at the aggregate level.

The term social capital has however been widely used with slightly different interpretations (Woolcock, 1998). Yet, a few common references can be identified, for example, (1) the processes between people, established networks, norms and social trust, (2) coordination and cooperation for mutual benefit, (3) collective power of community bonds and networks, (4) building cohesive communities etc. (Cox, 1995, Ife, 2006; Kenny, 2006; Pawar, 2014; Pawar and Cox: 2006; Wilson and Mayer, 2006; Leong, 2008). Social capital implies promotion of the fundamantals of people's bonds in cohesive communities, which are, as Bauman says, merely unexplainable and inexpressible (Bauman, 2001). It is also about, again, as Berger and Luckmann (2011) explain in their classic treatise on knowledge construction, how the members of cohesive communities engage with each other and collectively define, construct, unquestionably share and continue the realities of such bonds, or in other words those unexplainable or inexpressible connections. Thus the

community bonds are a product of understandable human engaging, which accumulates as social capital in the form of broader social understanding, shared values and common consciousness of cohesive communities to which the members claim subjective attachment, identity and belonging even if they are sometimes geographically away (Ife, 2006).

Hampshire and Healey (2000) claim that, there has been a lack of sustained attention to the actual or potential application of social capital ideas in community work. Yet, our experience with many CBOs is that the endeavours of their activism in local communities seem to have converted the bonding, bridging and linking dimensions of social capital to workable framework of community work practice (Light, 2004; Kortan, 1990; Omoto and Snyder, 2009; Pawar, 2014; Gamlath, 2017 and 2018; Chanan and Miler, 2013; WCC, 2007). The basis of such endeavours is the recognition of community engagement as a value-based motivation in a situation of relatively high level of social capital embedded in community cultures and relationships in terms of norms, trust, reciprocity, sense of belonging, and mutual benefits. It is recognised as community strength, and CBO activism appreciates community strength as skills and knowledge of all people involved, and encourages volunteer participation to convert such strength to volunteering paying the way for new way of engaging, connecting and binding people and institutions together and working for a positive future of broadening knowledge, skills and experience through mutual benefits. This approach of CBOs to community work enables to look at different ways of interactions with volunteers, participants and target groups of the community-based activities. CBOs perceive new form of volunteering as sustained strategy of application and actual implementation of social capital ideas in community action. Potential outcomes, particularly in relation to bonding with family, close friends and networks, bridging both intra and inter community connections to wider networks within the community, immediate reference groups and to other local communities, and linking to institutions, businesses, different layers of government etc. are intended (Hampshire and Healey, 2000).

New way of volunteerism

The idea that modern volunteering is a form of community action, which connects people together and promotes and generates community benefits has already been already recognised and extensively documented. (Korten and Klauss, 1984; Korten, 1990; IAVE, 1990; Warburton and Oppenheimer 2000; United Nations, 2001; Omoto and Snyder, 2009; Leigh, 2011; UNV, 2020; Omoto, et al. 2012; Ahmadi, 2013); Eliasoph, 2013; Volunteering Australia, 2015; Gamlath, 2017 and 2018). It has also been written that when the community members are closely connected each other, communities are strengthened and individual and community benefits increase (Healy & Hampshire, 2000), and people have better personal wellbeing outcomes (Wilkinson, 1999). Therefore, the application of modern volunteering is possible to be seen as another form of effective community engagement and social capital accumulation. Central to the justification of this assertion is more comprehensive understanding of what modern volunteering is about.

What is the commonly agreed interpretation for modern volunteering action? Reaching a universal agreement on the interpretation of modern form of volunteering has not been an easy task. Leigh (2011) suggests that it is because the terms, which define volunteering, and the form of its expression vary in different languages and cultures, though the expressive values and norms could be common and universal. One of the earliest attempts to universalize the core meaning of volunteering can be found in the work of United Nations (UNO, 2001). They interpret that modern volunteering is an activity, which should not be undertaken primarily for financial reward, although the reimbursement of the out-of-pocket expenses of the volunteer is allowed, which is undertaken voluntarily, according to an individual's own free-will, and of benefit to someone other than the volunteer, or to society at large. This interpretation elaborates several aspects of volunteer action, yet implies the fact that volunteers may not benefit from volunteering. However, it is now widely recognised that volunteering brings significant benefits to the volunteer as well. For example, Volunteering Australia, an organisation which has successfully incorporated community volunteering into the

country's broad social and economic development, recognises volunteering as an activity which takes place through not-for-profit organisations or projects and is undertaken with volunteer's own free-will for the benefit of both community as well as volunteer (Volunteering Australia, 2015).

The Universal Declaration of Volunteering (IAVE, 1990) too interprets volunteering as a two-way process of benefits – to both community and the volunteer. In much broader context, they elucidate modern volunteering as a creative and mediating action. It enables building healthy and sustainable communities that respect the dignity of all people, empower people to exercise their rights as human beings and thus to improve their lives, help solve social, cultural, economic and environmental problems, and create a more humane and just society through worldwide cooperation. Furthermore, with an attempt to articulate universal nature and values of volunteering, UN Volunteers (UNV, 2020) perceived volunteering as a human activity, a basic expression of human relationships that occurs in every society in the world, recognising volunteers themselves as being an integral part of the very communities that they are supposed to contribute. While almost all of these interpretations of modern volunteering revolve more or less around an identical territory, broadly, all resonate that at the heart of volunteerism are the ideals of connection, solidarity and service and the belief that together the world can be made a much better place.

Volunteering and community engagement

In terms of the key purpose, the common position of the above interpretations of modern volunteering seems to be somewhat different from the way it had been seen in the past (Leigh, 2011). For example, traditionally, it was used to be seen as an act of charity, philanthropy or benevolence, and volunteer workforce as being part of the frontline workers helping organisations to achieve better outcomes of the task of service delivery. In that, the volunteer position was always described as a set of directed tasks so that, in many circumstances, it was the volunteer and the task that was viewed central, not the community. Contrary to that

understanding, the common position in modern volunteerism is that, it points towards community engagement with implications of reciprocity, connection, opportunities for establishment and expansion of networks, building of trust and participation (Omoto, et al. 2012; Etziony, 1993 and 1995; Huges et al. 2006).

Even in a very specific situation with very specific tasks where volunteering can take place, for example, a situation of crisis intervention in an incident of natural disaster, modern volunteering can lead to strengthen community connections and bonds (Omoto, et. al 2012). When the volunteers turn up for relief and recovery tasks in response to crisis, they not only help victims and repair physical damage, but also strengthen psychological intact of the community. Specifically, when volunteers turn out to show their empathic concerns, they provide visible evidence of the worth of victims and communities with solidarity, stronger bonds of connections and social capital. They help people realise the value of withdrawal from their investments in social capital in a situation of crisis. This positive impact seems especially likely when volunteers work to empower community members rather than simply providing for their needs (Omoto, et al. 2012; Omoto and Snyder, 2009).

Volunteering and connected communities

Some suggests that promoting volunteering is a powerful strategy to bring healthy community back into usual strength in circumstances where community connections and strength seem to be gradually depleting in modern societies (Etziony, 1993 and 1995; Huges et al. 2006). Omoto and Snyder (2009) explore who gets involved and why. They develop a three stage volunteer process model (VPM) and elucidate how effective the role of volunteering is in community action by which means community connections are strengthened. Once the connections are built up and strengthened, further generation of a process of ongoing reciprocal reactions between volunteering and healthy and connected communities is also identified. For example, having positive impacts on the (emotional) wellbeing of community members sets antecedents of promoting volunteerism which in turn enables experience the

consequences of volunteerism reiterating the wellbeing benefits of strong connections (Omoto and Snyder, 2009). In a broader sense, even the United Nations mission statement of volunteering echoes this process of reciprocal positive reactions of the link between volunteering and community connections as the power of modern volunteering which can create a better world through its contribution to build healthy and connected communities (UNV, 2020).

Volunteering and CBO action

Some writings on Community-Based Organisations (CBOs) highlight that the benefits of volunteering substantially inform and guide CBO practices in community work (Korten and Klauss, 1984; Light, 2004; Cox and Pawar, 2006; Leong, 2008; NAO, 2009; Pawar, 2014; Gamlath, 2017 and 2018). The fact that it maximises the positive outcomes of their actions for the benefits of individuals, families and communities has also been substantially discussed (Etzioni, 1993 and 1995; UNO, 2001; Principi et al., 2014; Volunteering Australia, 2012 and 2014; Rochester et al. 2016; UNV, 2020). Oppenheimer (2008) and Omoto and Snyder (2009) explain that, this understanding of modern volunteerism has enabled many CBOs to move away from the traditional, service delivery-oriented form of volunteering to modern community action and connection oriented volunteering. It seems that such a move enables transforming the work of CBOs and connecting communities into volunteering action alongside the volunteer and organisation (Hedley et al., 2005; WCC, 2007; Oppenheimer, 2008; Omoto and Snyder, 2009; Rochester et. al,, 2016; Chanan and Miller, 2013; Etzioni, 1993 and 1995). Therefore, CBOs can now be seen as being at the forefront of promoting community connections and collective strength through their strategic application of modern volunteerism in community action. The way in which CBOs apply modern volunteering is developmental and rights-based so that it brings engagement and connection into spontaneous action with no authoritative directions, charitable or benevolent provisions. Therefore, the role of volunteering in CBO functions always reflect the agenda of promoting rights, positive attitudes, values and principles. It is driven by the vision of the organisation, connects to its mission and culture and

remains throughout the community action. It recognises everyone involved as having needs, wants, skills and strengths so that the focus of employing volunteerism is broadened to be more open accepting all members of the community who would like to engage. This approach may not only strengthen connections, and hence social capital, but also help to include community members who need to be involved and help themselves.

It is however unrealistic to expect that every community-based organisation or programme applies modern form of volunteering in its true dimensions (Eliasoph, 2013). Realistically, it depends largely on the vision and culture of the organisation or programme which involve volunteers in community action. However, particular aspect of the tasks that volunteers perform may sometimes have different emphasis in different community work contexts. With this view, our experience suggests two different patterns of volunteering applications in community work, one still being much more conventional, directive and predominantly task-centred while the other being more modern, participatory and predominantly connection-centred. The community engagement principles driven volunteerism may therefore require intentional application, as it will not always be automatic. Often, it is very much situation and context specific, though some aspects of community engagement can happen without an intention of deliberately creating it.

Task - centred volunteering

If the reality is that, not every programme or CBO would promote community engagement principles through volunteering, it is important to know scenarios of programmes that may truly not make modern volunteering action another form of community engagement. In other words, culture of certain CBOs or community work programmes would not promote volunteering in terms of a new approach for the purpose of creating an enabling environment for peoples' active involvement in community action and connection among each other. Instead, they would demonstrate returning to traditional ways of volunteering,

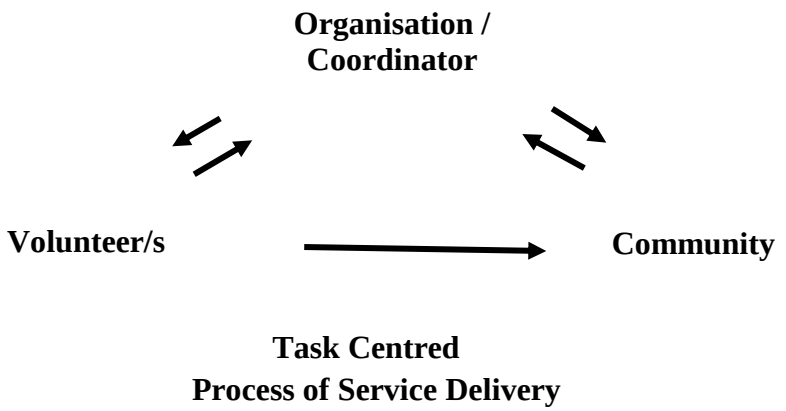
directing and focusing on the task, not the community, or perhaps even volunteer.

In such scenarios, volunteering in community action is highly likely to be applied making decisions not based on approaching potential clients to find out what they identify as their needs and not asking the community how they would best likely to be involved. In addition, having activities that set rigid directive role for volunteers and, as such, no individual strengths and initiative can flow from the volunteers or allow creative ideas to be used would not elevate volunteer action. Moreover, setting a dividing-line between who the volunteer is, who the client is, and who the staff member is, would fail all people involved in community action to see the norms that hold them together on the same level. It will also create no opportunity for community members to connect with each other and to the volunteer so that the volunteer role may function in isolation. Delivering a service to clients in the context of the volunteer being isolated and hence service delivery flow becomes unidirectional does not support or recognise reciprocity and community participation in volunteer action. This can be seen where no attributes are given to clients receiving a service, their strengths and skills are not recognized as important or a potential part of a reciprocal relationship. Besides, forming volunteer groups in such a manner may have barriers in the way in which different members of the community participate and develop no links established to internal or external structures which facilitates creating community networks.

The volunteering in community action with those characteristics emanates from organisational directives and the task is described, controlled and supervised by the organisation itself. Stimulation for volunteers to be involved in the task would, as most stories of the volunteers say, simply become only a subjective satisfaction they have by doing something in the community or contributing something back to the community (UNO, 200; UNV, 2020; IAVE 1990; Volunteering Australia, 2012, 2014 and 2015; Gamlath 2017). For many older volunteers, it is just for breaking a situation of loneliness during their

retirement, coming out of isolation and getting involved in something in the community (WCC, 2007; Volunteering Australia, 2012, 2014 and 2015; Princip et al., 2014). The evidence in some other situations shows that the reasons for volunteering involvement are some personal benefits (i.e., individual outcome of the rational action of the individual) from the task they perform, for example, work experience, job training, field practice of study programmes, requirement for welfare benefit entitlement etc. (Volunteering Australia, 2015). In such situations, the volunteer action is very much specific task-centred and the real motivation of the volunteer is not merely community-centred. Such scenarios of volunteering that might not reflect community engagement principles (i.e., collective community benefits of the accumulated social capital) could be depicted in a simple model presented below (Figure 1).

Figure 1



Source: Author

In this model, identified as task-centred model of volunteering, the organisation or programme coordinator is the expert directing what has to be done in accordance with the agenda, which sets just a service delivery orientation. The measurement of the service outcome is calculation of numbers, for example number of volunteers involved, how much time spent, how many clients served etc. The volunteer provides a set roles and services to the client that is seen as being more weighted in

the volunteer “giving” and client 'receiving' the service. The volunteer gives feedback to the coordinator in a structured format and the coordinator gains feedback from the client. There are several key implications of this pattern of volunteering. For example,

- Organisation holds the knowledge and gives knowledge to the volunteers and clients.
- Volunteer position is seen as the key element of the volunteer program operation and a specific role for the volunteer is prescribed in a structured position description.
- Volunteer becomes a person who needs to be trained, is willing to give time and contribution by performing the role that is set.
- Volunteer has little or no say in the progression of the role or review of the outcomes
- Client is the service receiver who is placed in a different group and receives all benefits of the volunteer service delivery

In these instances, the true principles of community engagement are not allowed to surface and thrive. The opportunities for points of community connection surface are missed out. The members of the community involved as a part of volunteering action are constrained to participate in the process and hence become unable to contribute with many of their own potentials and initiatives. Volunteers are directed to deliver a service and the engagement principles are missed out in the process of volunteer action resulting in fewer opportunities for stronger community participation and connection. Generating benefits in this form of volunteering process applied by CBOs may involve service delivery to the community which may otherwise have been delayed or inefficient due to the lack of adequate funds for CBOs to employee paid staff for the task (NAO, 2009; Dekker and Halman, 2012; Rochester et al., 2012; Chanan and Miller, 2013).

Connection-centred volunteering

The extreme opposite to the task-centred model of volunteering is connection-centred model of volunteerism. It promotes true community

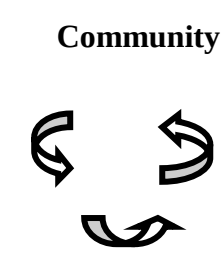
engagement principles, which enable a framework for inclusion of volunteers, organisation and the needs of all people that come into contact with and hence become involved. The volunteer groups sometimes emerge as homogeneous self-help groups in the community, involved and connected together for a collective purpose to achieve, through active performing of volunteering role without direction or coercion. In this way, the new approach to volunteering that would promote circumstances of engagement in the community action becomes culture of the organisation and community volunteering programmes (WCC, 2007; Oppenheimer and Warburton, 2014; Oppenheimer, 2008; Hardill and Baines, 2020; Chanan and Miller, 2013; Rochester et al, 2012; Gamlath, 2017 and 2018). It focuses on the volunteers, clients, participants, all as being community members, and all having skills and strengths to bring in.

The connection-centred model of volunteering can be seen as a paradigm shift in community volunteering with an orientation of reciprocity in relationships between volunteers and community members in the process. The organisation or programme form community groups based on the direct requests of the community members or thorough multi-faceted community needs assessment. The group creates opportunities for both volunteers and community participants to interact and engage in activities alongside each other. It facilitates an enabling environment for the group to become more inclusive, autonomous and empowered with a collective voice of common goals. The volunteers are recruited across different roles within the organisation or programme, informed of community connection oriented understanding of volunteerism, and resourced to participate in the entire process of planning and implementation. The entire group formulation process is planned to facilitate innovative ways of working in the groups where the role of volunteer becomes more or less a role of emphatic listener and facilitator. They are given opportunities with freedom to have ample time for assessing the needs and available resources within groups, making choices and decisions with careful concerns of not creating more isolation for community members participating in the programme

(Oppenheimer and Warburton, 2014; Oppenheimer, 2008). The entire volunteering process is made more flexible looking from a perspective of community opportunities to have their say and bring something to the group (Figure 2).

In this model, the individual is the expert on what they need and all community members involved have skills and strengths. The communication flow can happen across roles of volunteers, participants and clients involved in the growth of the group or volunteer role. The organisation is the facilitator or supporter. Key players and all aspects of the connection are inclusive and closely interconnected for interchangeable mobilisation of input contribution and benefit consumption (WCC, 2007; Chanan and Miller, 2013; Rochester et al., 2016). The key players of inclusive connection consist of individuals, community groups and the organisation. The reason why people will be involved in volunteering is valued and individual needs are recognised. They have an invitation to participate and contribute. This may reach community members who may not have realised that they become involved. Building relationships is supported. Relationships that already exist as well as strengths, skills and life experiences of each individual are recognised. Community groups share a common purpose, a shared goal. This may occur in varying degrees.

Figure 2



Source: Author

At one end, the group work directly together, set the purpose of group formation, and tries to achieve common goals. At the other end, a group of people meet and make networks (Gamlath, 2017). They do not come with a preconceived idea of what outcomes they would like to achieve. The organisation facilitates the role of people from the community working together, maybe to achieve a program outcome, and supports opportunities for a group to come together, maybe facilitating a social network between volunteers and clients and other service providers. The organisation is influenced by listening to, and facilitating what community members want. It supports opportunities while broadening choice and opportunity, seeks further backup and networks and, over time, changes due to the varying needs and wants of the community. It becomes flexible, allowing individuality of different people to come through their volunteer role and provides a link to debate and change. Further, it networks outside the community or amongst different communities.

When the people engage in collective community action, and become connected together through volunteering, it becomes another form of community engagement. It sets principles that guide CBO activism striving towards creating an enabling community environment (WCC, 2007). CBOs seek that it will be an environment where community action thrives with participation in aspects of the action (Gamlath, 2018). The community itself decides and prioritize the needs and the strategies for them to be achieved. CBOs may perform the role of facilitator at times and, as Ife says (2009), may be resource provider, trainer, technical expert, mediator, mentor, etc. at other times. In that community environment, CBOs are optimistic that new way of volunteering becomes the key strategy for reciprocity based community connections and engagement. The principles that promote and guide the CBO action are mainly identified along the following key areas of action (WCC, 2007).

1. Information - provision of information empowers local communities to make decision about how to be involved in their community and ensures people's access to appropriate

services and resources. Volunteering and community participation opportunities will be promoted broadly, so the community is informed of the ways that they can get involved.

2. Connection - connection with integrity of CBOs - there is openness and honesty about the scope and purpose of volunteering, that there is a willingness to trust the community's views, experiences and aspirations.

3. Inclusion - a diverse range of people in the community have a chance to be involved in the volunteering and have their say, and that community volunteering process seek to include and support those who may otherwise not be involved.

4. Cohesiveness - people have the opportunity to meet other people, form relationships with others when they get involved or have a say in the community. This will foster relationships between and within communities based on mutual understanding, trust and respect.

5. Influence - when people participate in the community or have a say, it makes a difference in the way things are done. Then the policies and services or the ways the organizations work in the community reflect the input and involvement of local people;

6. Accessibility - people who have difficulty to get involved and have a say are helped with cleared access to be involved;

7. Local - the opportunities to have a say and get involved in the community are available locally, and the resources available for community volunteering prioritize meeting the community participation needs, aspirations and interests of the local community, and

8. Sustainable - opportunities to get involved or have a say to have lasting community benefits, and the activities that meet current needs will have positive influence on community's ability to meet future needs.

These principles of connection-centred volunteering guide community action of the CBO and enables transformation of the new spirit of engagement of people. It gradually develops their capabilities and become empowered along the way of their own action, into pragmatic community benefits. In this way, the activities of involving community members in volunteering become another form of community engagement. Consequently, it generates enabling environment for bonding, bridging and linking which may in turn be seen as both an expression of an existing high level of accumulated social capital, and also way of increasing it further.

Conversely, this implies that the situations of lack of participation through volunteering may be seen as an expression of disconnection, lack of engagement and depleted social capital base. Moreover, it would demonstrate a community circumstance possibly where task-centred form of volunteering would be brought by the CBOs or programmes into community action as another way of providing for the needs of people. That volunteer action then simply becomes, instead of being another form of community engagement where people become capable of sustaining their own collective action for their own benefits, an alternative way of service provision, which is detached from the people, merely a one-way flow that is entirely task-centred, descripted, directed, controlled and supervised.

The connection-centred model (structure) of volunteering enables community members, including volunteers, become closely bonded and networked together, and develop obligations, expectations and trustworthiness. It creates a structure, which promotes close connection between and among people and enables community conditions for social capital accumulation, which, in conjunction with economic and human

capital, generates productive benefits to the participants in the community action through volunteering. Implication is that, higher the level of community engagement through the role of such a form of volunteering in community action, higher the level of proactive community participation in local level community organising and development, social capital accumulation, and overall community benefits being generated. One would not imagine receiving personal and community level benefits generated from a social structure, such as for example, task-centred model of volunteering, where close connection among the members through active participatory engagement is not promoted.

Conclusion

Reciprocal benefits between volunteer engaging in community, and the benefits it brings to both volunteer and the community have been widely recognised and documented. This understanding informs the approach and practice of Community-Based Organisations as they strive to maximise positive outcomes for individuals, families and communities, to re-think traditional approaches of volunteering, and make a paradigm shift to a new approach which promotes active and effective community engagement. In this way, modern volunteering has become a new way of community engagement. It promotes a set of principles guiding and helping the organisations to emerge with a community activism towards creating and sustaining connected communities and healthy social capital base.

Unlike the task-centred, traditional form of volunteerism, the new approach to volunteering, as a way of community engagement, provides a community connection-centred model of volunteering. It creates opportunities for local community to equally participate in a range of community activities and acquire capacities to achieve their own welfare and wellbeing, in partnership with CBOs but with much higher level of their own inputs. On one hand, it probably is an active involvement in local processes of community organising and development that affect their own lives, way of empowerment and capacity building, strategy for

sustained engagement and connection, contribution to building healthy civil society and higher level of social capital accumulation. On the other, the principles of connection-centred approach to volunteering guide bringing about a paradigm shift in CBO activism. It promotes moving away from the traditional task-centred approaches and structures, and looking at better ways to 'walk along side' communities. It enables a community environment where everyone is in close bonding, bridging and linking, not only among each other but also to the existing community networks and institutional structures as well. It makes CBOs striving for maximizing positive outcomes for individuals, families and community. The key implication of the overall process is then, the connection-centred model of volunteering becomes another form of more effective community engagement which enables strongly proactive community participation in local level community organising and development. Such a model of volunteerism seems to be promoting community conditions for higher level of social capital to be accumulated within communities.

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