COVID-19 ECONOMIC STORM IN SRI LANKA'S REAL SECTOR: A SYNOPTIC ANALYSIS FOCUSING ON POTENTIAL POLICY REFORMS

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Abstract

This study examines Sri Lanka's economic situation to recognize the potential policy reforms to revive country's real sector in Post COVID-19 era. This study collected primary data through qualitative data collection approach named semi-structured interviews. Total sample size considered for interviews was 12. In addition to that, the information presented and reviewed in this study was taken from several updated secondary sources. Qualitative data was analyzed through reflexive thematic analysis approach which was introduced by Virginia Braun and Victoria Clarke. Thematic analysis of this qualitative study found several major themes as the policy reforms to rebuild agricultural sector, industrial sector and service sector in the post-COVID era. Centralized Backward & Forward Information Linkage System, Creation of Local Cultivation Trends and Import Substitution, Agro Innovations in Post COVID-19 Period, Cost Minimization Techniques, Expanding Systematic Warehouse Facilities as a Solution for Over-Production, Re-Lifting the Construction Sector after COVID-19 Disruption, Making Case for Cities as the Major Hubs of Economic Growth, Attracting Foreign Direct Investments, Developing a Technical Strategy for Sri Lankan Rail Transportation, Expansion of Digital Retail Activities, Bridging the Digital Divide, Cultivating Innovative Educational Culture in Higher Education Sector, Extra Focus on Mental Health, Community Nursing Service System can be cited as those policy reforms.

Keywords: Post-COVID Era, Real Sector, Thematic Analysis, Sri Lanka

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1. Introduction

COVID-19 can be considered as a gruesome obstacle to the national development of many countries. COVID-19 started in China from the city of Wuhan, and had spread in the whole world including the world's most powerful countries such as America, France, Germany and Great Britain (Nambiar & BS, 2020). This epidemic situation started in 2019 December, and it was announced as a global pandemic by the World Health Organization (WHO) on 11th March 2020 (Cucinotta & Vanelli, 2020). The first COVID-19 patient was reported in March from Sri Lanka (Amaratunga et al., 2020).

The novel coronavirus pandemic, or COVID-19, was predicted to have a vast impact on the global economy. Global economy was at a risk since the beginning of this issue because Chinese economy was interconnected with the entire world in 2020 than in 2003 in which severe acute respiratory syndrome (SARS) pandemic issue began in China. In 2003, China was accounted only for 4% of global Gross Domestic Production (GDP), but China's share of global GDP in 2020 is at around 16%- 17% (Brandt, Litwack, Mileva, Wang, Zhang, & Zhao, 2020). Therefore, the impact of CORONA Virus was relatively higher than the SARS pandemic since the beginning of the spread of virus from China.

The impact that the coronavirus (COVID-19) outbreak had on the economy depended on how the outbreak played upon each country. It was predicted that the GDP of the most of powerful countries in the world will face significant downturn in 2020 (World Bank, 2020). Forecasted percent change and Actual percent change in GDP of the top five economies, as a result of the coronavirus (COVID-19) outbreak in 2020, can be summarized as in Table 1.

Table 1: Forecasted and Actual percent change in Gross Domestic Production (GDP,) as a result of the corona virus (COVID-19) outbreak in 2020, by country.

Country (Top five economies in the world)	Forecasted percent change in Gross Domestic Production (GDP)	Actual percent change in Gross Domestic Production (GDP)
United States	-2.4%	-3.4%
China	-2.4%	2.3%
Japan	-2.7%	-4.6%
Germany	-3.6%	-4.6%
India	-2.3%	-7.3%

Source:(https://www.statista.com/) and World Bank Group, 2022

Accordingly, actual GDP percent change is worse than what was forecasted except in all above economies except in China. This implies that, COVID-19 pandemic situation was a crisis which was more dangerous than the expected level even for most powerful nations. However, in 2020, Sri Lanka recorded the highest negative economic growth in Sri Lankan history after independence and it was - 3.6%. (Central Bank of Sri Lanka, 2020). Accordingly, all the three sub sectors of Real Sector namely agricultural sector, industrial sector and service sector were affected vastly because of the coronavirus (COVID-19) outbreak in 2020. As a

result of COVID-19 outbreak, Sri Lanka's agriculture sector was contracted by 1.3% while service sector fell down by 1.7%. However, industrial sector showed 7.3% decline and emerged as the most affected GDP contributor (International Credit Rating Agency (ICRA) Sri Lanka, 2020).

Agriculture sector is recognized as the primary sector in the real sector. Sri Lanka is still largely an agrarian society in which most of the population is dependent on agriculture for their livelihood. A marginal growth of 0.6 % was brought by agriculture in 2019, in comparison to the growth rate of 6.5 per cent in 2018 (Central Bank of Sri Lanka, 2019). The Agricultural Production Index, which measures output in the agriculture and fisheries sectors, remained largely constant, with a growth of 0.03% in 2019 compared to 11.0% growth in 2018 (Central Bank of Sri Lanka, 2019). Comparatively the agricultural sector had a low impact from COVID-19 pandemic as the government did not impose serious restrictions on agricultural activities during the curfew period. Instead, the farmers and fishermen were encouraged to continue with their cultivations and fisheries activities. However, according to the International Credit Rating Agency (ICRA) Sri Lanka Research (2020), agricultural sector was expected to be quite resilient and will have a shallow shock due to loss of integration with global supply chains. Ultimately, a huge decline in overall production level in the agricultural sector was observed in 2020 due to collective impact of corona outbreak and bad weather conditions. Coconut production was declining significantly throughout the year. Rubber production fell in the first half of the year mainly due to the first wave of coronavirus. Tea production too fell dramatically during the first quarter but largely recovered since July. The fisheries sector was also hit hard by the rise of the first and second waves (International Credit Rating Agency (ICRA) Sri Lanka, 2020).

The secondary sector of real sector is the Industrial Sector. Before COVID-19 pandemic situation, Industrial sector was at a growing phase. Industry value addition increased by 2.7 percent in 2019 in relation to the 1.2 percent growth recorded in 2018, mainly benefiting from construction recovery and joint accounting mining and quarrying activities (Central Bank of Sri Lanka, 2019). The industrial sector performed extensively in 2018/19. Following the opening of the Sapugaskanda oil refinery in 2017, the petroleum products sub-sector has also expanded in the last two years (Asian Development Bank, 2019). Moreover, the restoration of GSP relief in 2017 also helped garment industry to grow (Senaratne, 2021) but this industrial sector is found to be one of the hardly hit sectors due to COVID- 19 pandemic. With the country locking down in April, the industrial sector suffered a record contraction (International Credit Rating Agency (ICRA) Sri Lanka, 2020).

Apparel and textile industry are the top contributors to national exports that exceeds US $ 5 billion (Sri Lanka Export Development Board, 2021). Based on Purchasing Manager's Indices (PMI) data provided by the Central Bank of Sri Lanka (CBSL) in 2020, "new orders" and "employment" have slowed down, particularly as the demand for textile manufacturing and apparel sector had fallen globally. The PMI stressed that the supplies were delayed due to supply constraints. Therefore, enterprises were forecasting a shortfall in the short-term production. As a result of COVID-19, exports of Sri Lankan apparel companies for the three months

ending June 2020 fell by $ 1.5 billion compared to the previous fiscal year (Kavindi et al., 2021). Despite ongoing curfew, many construction projects which played a considerable role in industrial sector were halted due to operational challenges such as labor and raw material deployment. Since most construction projects were carried out by Chinese contractors, locking down construction workers after the Chinese New Year adversely affected the industry (PwC, 2020). Fall of foreign investments also badly affected the construction sector. Another industrial sector which was greatly affected by COVID-19was Agrochemical sector. Major global agrochemical markets such as the US and Japan were also affected by this global pandemic, which would disrupt supply chains in Sri Lanka's agrochemical sector (including the herbicide sector) (ICRA Lanka , 2020).

Service sector is the biggest contributor for GDP in Sri Lanka (The World Bank Group, 2022). Due to the negative impact of the Easter attacks, service activity fell to 2.3 percent of value added in 2019, the lowest growth in nearly five years, and 4.6 percent in 2018 (Arunatillake, 2020). Service sector declined further because of COVID-19 pandemic. During the first two months of 2020, tourist arrivals declined due to corona virus disruptions. After the lockdown in March, the tourism industry suffered a setback, leading to a sharp drop in leisure sector revenue. Moreover, the trade sector was also affected by import restrictions and depreciation of the exchange rate. In addition, barriers to distribution and distribution channels also affected trade. (International Credit Rating Agency (ICRA) Sri Lanka, 2020). Under this uncertain curfew, the country used public-private partnership mechanism to provide essential household and consumer goods to the public (PwC, 2020) but the demand for clothing, white goods and consumer durable goods slowed and it impacted on trade badly. (Gunawardana, 2020).

The banking and financial services sector is a significant component in the service sector. The outlook is somewhat challenging as the pandemic has posed a significant risk to the overall credit growth and asset quality of banks and non-banks. Funding and liquidity are the most important risks for financial companies (Central Bank of Sri Lanka , 2020). Moreover, influence of tourism and manufacturing will have a major impact on the transport sector too (Sri Lanka Tourism Development Authority, 2021).

However, despite the short-term burden, the long-term impact on the health care sector is not likely. The government, with the help of the private sector, sought to promote human development through the provision of health and education services (which are prominent parts of the service sector) and implemented continuous social assistance programs to improve the living conditions of low-income families. COVID-19 caused serious health problems in Sri Lanka by 2020, resulting in high levels of death and disease among the population and huge stagnation in the Sri Lankan education system (World Bank, 2021).

In this manner, the outbreak of COVID-19 has significantly impacted all sub sectors namely agricultural, industrial and service sectors in the real sector across Sri Lanka. This study examined Sri Lanka's economic situation to recognize the potential policy reforms to build the country's real sector in Post COVID-19 era.

Although there were many reviews on the impact of COVID-19 on Sri Lanka, previous literature showed limitations in focus on policy reform for revival in entire real sector of Sri Lanka as a whole, in the post COVID era. Health and socio-economic impacts of COVID-19 in Sri Lanka and its trend was explained by a synoptic analysis in 2020 and it focused not on policy reforms, but only on impacts and trends (Amaratunga et al., 2020). Policies need to protect Sri Lanka's horticultural sector from shocks like COVID-19 in the future and it was examined by University of Sri Jayewardenepura and the Sri Lanka Council for Agricultural Research Policy (Sachitra & Padmini, 2021). However, the research's focus was not on entire real sector of Sri Lanka, but only on the agricultural sector of the country. Further, L Pathirana examined the possible strategic responses to achieve speed recovery in the construction felid (Pathirana, 2020). Although this study focused on the role Sri Lanka should play in the management of economic action for construction field in the aftermath of the COVID-19 pandemic, it was limited to Sri Lanka's construction field which is only one component in the Industrial Sector of the real sector. Another study of Uva Wellassa University in Sri Lanka highlighted the impact of COVID-19 on the country's tourism industry & possible policy implications for recovery in tourism (Ranasinghe, et al., 2020).Again, that study was also limited only to one industry in the Service Sector of the real sector. A study of Southeastern University of Sri Lanka found some strategies to fasten the growth of educational services in post-COVID era by focusing on COVID impact on Higher Education Sectors in Sri Lanka. The study argues that, in order to make the teaching and learning process more effective, the university should focus on a hybrid education system that addresses the issues of online education that the staff and the students face (Rameez, Fowsar, & Lumna, 2020). However, this particular research was too focused only on one component in the Service Sector of the real sector. Accordingly, although the past scholars have concentrated on different components of real sector separately, no research was found from the Sri Lankan context (as per the best knowledge of the researcher) which focused on policy reform construction for the entire real sector including all three GDP contributors namely agricultural sector, industrial sector and service sector in the post-COVID Sri Lanka. This literature gap will be filled in this study by focusing on the entire real sector as a whole.

The researcher expected to answer the following research question to achieve the ultimate aims of this study.

Research question

What are the potential policy reforms to rebuild the real sector of Sri Lanka including agricultural sector, industrial sector and service sector in the post-COVID era?

In order to answer the stated research question, one (1) objective of the study was set.

Research objective

To recognize the potential policy reforms to re-build Sri Lanka's real sector in Post COVID-19, under the three (3) segments namely:

-Agricultural Sector Reforms
-Industrial Sector Reforms

-Service Sector Reforms

2. Methodology

The information presented and reviewed in this study are taken from several updated secondary sources such as analytical reports of Non-Governmental Organizations (NGO) and corporate sector, website of local and foreign organizations, webinars organized by local and foreign entities. In addition to that, this study collected primary data through qualitative data collection approach named semi-structured interviews. Qualitative in-depth key informant interviews were conducted with national level state authorities to explore potential policy reforms for post COVID Sri Lanka. The interviews were carried out with Former Chairman of Monetary Policy Consultative Committee (MPCC) in the Central Bank of Sri Lanka, Director of Economic Research in the Central Bank of Sri Lanka, Economists attached to Economic Research Department of Central Bank of Sri Lanka, Professors in Economics attached to the Department of Economics in University of Colombo, Professors and Senior Lecturers attached to the Department of Business Economics in the University of Sri Jayewardenepura, Executive Chairman of Lanka Harness co; (Pvt) Ltd company & a Former Presidential Election Candidate, Finance Manager of AIESEC International (Former President, AIESEC Sri Lanka), Former Director of National Youth Service Council and Officers in Accord Steering Group (ASG). The total sample size considered for interviews was 12.

Interviewees' sources were purposefully chosen based on the following causes. Central Bank of Sri Lanka (CBSL) was purposefully selected because it's the key authoritative party for economic reformations in Sri Lanka. Representatives from Monetary Policy Consultative Committee (MPCC) and Economic Research Department (ERD) in CBSL were selected from the Central Bank for interviews. Monetary Policy Consultative Committee was selected mainly because it's the key responsible party for monetary reformations required to overcome the liquidity issues related to real sector that Sri Lanka faced during the COVID-19 pandemic period and Economic Research Department was chosen because it is the key contributing department in the Economic and Price Stability Cluster which is responsible to provide timely policy advises and recommendations for the real, external, fiscal, monetary and financial sector developments.

In addition to that, Professors from University of Colombo and University of Sri Jayewardenepura were mainly selected with the objective of exploring the economic recovery policy perspective of academic professors in the field of Economics. The two aforesaid universities were chosen under the basis of convenience sampling. Harness co; (Pvt) Ltd was selected as a representative of corporate sector to understand the corporate perspective for speed economic recovery of post COVID Sri Lanka. Harness co; (Pvt) Ltd can be recognized as a top contributor for Global Production Chain representing Sri Lanka & Export revenue of the country. Further, he was a presidential election candidate of 2020 presidential election in Sri Lanka.

Moreover, global youth perspective for youth friendly economic recovery for post COVID Sri Lanka was collected from AIESEC International because it's

the world's largest youth run organization which was established as the International Association of Students in Economics and Business. Further, local youth perception on strategies to rebuild the Sri Lankan economy after COVID-19 were collected by interviewing the National Youth Service Council because it's the largest local youth body operating in Sri Lanka under the Ministry of Youth & Sports.

Average total time duration consumed per interview was 90 minutes. The interviews consisted of three phases. First 10-15 minutes were used to create close and harmonious relationship with the participants to understand each other. Approximately 1 hour was consumed to drive targeted discussion and last 10-15 minutes were spent on post-interview conversation. However, the data collection took about three (3) months from May end to July end 2020. The entire interview was recorded (audio-recording) with the permission of participants.

In this paper, data gathered were qualitative in nature and were therefore subject to thematic analysis. Thematic Analysis can cover the broad aspects of the full data set, and then picking a particularly interesting part of those results to investigate in more depth with narratives of participants according to Morgon (2017). This research used widely cited theoretically flexible approach to TA called reflexive thematic analysis approach which was introduced by Virginia Braun and Victoria Clarke (Braun & Clarke, 2006). There are six phases in the reflexive thematic analysis. According to Braun and Clarke (2008), theoretical thematic analysis and inductive thematic analysis are the two ways available to identify potential themes. This study adopted the inductive thematic analysis to identify themes because it's the way that is driven by data instead of theories (Elo & Kyngäs, 2008). Semantic or explicit level and latent or interpretative level are the two optional levels of identifying themes. With the semantic approach, the analyst does not see anything beyond what participants said but latent approach guides the analyst to go beyond the semantic content (Braun & Clarke, 2006). This is involved in interpretative work when developing themes. Therefore, this study's latent level is the level of identifying themes. Table 2 illustrates the phases and description of the process.

Table 2: Phases of Thematic Analysis (TA) and description of the process

Phase	Description of the process
1. Familiarizing yourself with your data	In this phase, researchers have to familiarize him/her with the data and, then the initial list of ideas should be generated about what is in the dataset and what parts are interesting about them. Further, transcription of verbal data is necessary to be prepared if the researcher's data collection method is an interview or similar verbal mode.
2. Generating initial codes	Code is a brief phrase. This phase involves in the coding process which is used to recognize parts from the data set that are interesting to analyze and related to answer research questions. This step should ensure that all relevant actual data extracts are coded and then merged within each code.
3. Searching for themes	Classification of the various codes into potential themes and merging of all relevant coded data within the identified themes

		are done under this phase.
4.	Reviewing themes	In this phase, researchers have to review themes under two levels. Under level one, all the collated extracts for each theme are needed to be read by the researcher, in order to identify whether a coherent pattern is appearing in coded data extracts. If a coherent pattern is there, then the researcher could move to level two in which validity of individual themes in relation to the data set reviewed.
5.	Defining and naming themes	Phase of 'defining and refining', involves recognizing the 'essence' of each theme and determining the aspect of the data captured by each theme. An informative name for each theme is also determined under this phase.
6.	Producing the report	All the themes identified in early phase are presented in the written form together with the data extracts and analytic narrative under this step. Contextualizing of the qualitative analysis in relation to prevailing literatures is also done under this final step.

Source: Braun and Clarke, 2006

Ultimately this study involved finding themes as potential policy reforms to rebuild the real sector of post COVID Sri Lanka.

3. Analyses and Findings

Findings of this qualitative study are presented under major themes in a way that the research question is addressed and, in a way, to recognize the potential policy reforms to re-build Sri Lanka's real sector in Post COVID-19 era. Accordingly, five (5) themes, three (3) themes and six (6) themes were recognized as potential policy reforms to re-build post COVID Sri Lanka's Agricultural Sector, Industrial Sector and Service Sector respectively. These 14 themes were generated from 87 free codes initially built in the analysis.

Data is displayed using narrative text and quotations. According to Yin (2010), narratives were identified as a strong technique to facilitate the data analysis. Theme validation is done in two stages namely early stage of data analysis and late stage of data analysis because that kind of data validation was emphasized by past literature as an essential aspect for qualitative studies (Miles & Huberman, 1994). Early stage validation was done with the involvement of an outside reviewer in order to identify the compatibility of themes for the whole study. Next, late stage validation was carried with the involvement of an independent reviewer. Ultimately, feedbacks of both reviewers were compared with the objective of building reliability in themes analysis coding. According to Hosmer (2008), this is similar to reliability from a positivistic perspective. Addition of new themes and removal of existing themes were done at the end, after considering the conflicting results of early stage and late stage validations.

Themes are presented as follows.

3.1 Agricultural sector

Based on qualitative data analysis, five (5) themes were built as policy strategies to be implemented in the post-COVID era to achieve recovery plus growth in agricultural sector.

Centralized backward and forward information linkage system

During the quarantine period, the country experienced a number of complaints from the farmers and the customers regarding unfairness of prices and many other issues. This is a situation that has been commonly observed at every crisis in Sri Lanka. According to the explanations of an economist in the Central Bank, one of the main root causes for these problems is the unavailability of centralized backward and forward information linkage system which can create smooth flow of information among agricultural supply chain participants such as farmers, distributors, and consumers. This is a system that should be established under the supervision and monitoring of Ministry of Agriculture. He emphasized that; the presence of this system will be an effective solution for problems of over harvest loss, unrealistic prices, food insecurity experienced during the quarantine period.

> *"See... Do we have a proper information flow in the agricultural field? Although we had something, is it effective enough? Even before COVID-19, we didn't have such an effective thing. Now, we are feeling the problem in a severe way when distributing vegetables in this quarantine period because producers are not aware of customer's demand very well and customers are also not aware about the supply of the producers very well. Even wholesale and retail sellers are not much informed about some market information. So, we should have a strong information linkage system which will help to coordinate all the participants in the agricultural supply chain including producers, distributers, customers etc." (An Economist, Economic Research Department, Central Bank of Sri Lanka).*

Creation of local cultivation trends and import substitution

The Former Chairman of Monetary Policy Consultative Committee who is serving as a professor in Economics showed that the post-COVID period is the best time period for the government to create local cultivation trends in Sri Lanka by encouraging local daily producers in agricultural sectors. Sri Lanka is having a well-developed agrarian economy, must find substitutes for imports in the country and encourage the domestic producer to meet the domestic consumption gap. Sri Lanka has the ability of producing agricultural products as potatoes, onions, grapes and oranges which are being imported. However, it will enable to expand the agricultural production within the country. Implementing high tariff policy on imported food items as appropriate, to maintain food security produced.

> *"Have you heard this Indian phrase? "Micro-chips and potato- chips." It says, India should produce potato chips within the country because they are capable in it, but should not produce micro-chips because they are not that much capable in it. We, Sri Lanka is capable in agricultural production since past. Sad to say...Our country lost our identity since 1977. Sri Lanka which was labeled as*

Eastern Granary is now importing even potatoes, onions, grapes and oranges from abroad. We should stop this and create trending local cultivation soon. This is the best time to strengthen the local cultivators through protectionism" (Former Chairman of Monetary Policy Consultative Committee (MPCC) and a Professor in Economics).

Agro innovations in post COVID-19 period

Many Research participants pointed the Agro-Innovations as a good policy reform to be executed in post COVID era. Accordingly, the country needs to facilitate the establishment of an Agricultural Innovation Centers with the objective of developing value-added food products and processed foods for the local and export markets. Managing this facility as a collaborative venture of government, business chambers, universities and private sector is essential. Together with that, the country should draw more attention towards agricultural innovations in new dimension. Senior Lecturer in Business Economics, University of Sri Jayewardenepura showed the possibility for the rise in Local and foreign demands for healthy food & beverages and ayuredic medicines in the post-COVID period. In order to turn this new consumption trend into an opportunity, Sri Lanka needs to give considerable attention for the expansion of herbal crops having carried out proper market researches. At the same time, attention should be drawn towards introducing hot drink products produced with the use of tea, koththamalli (coriander) to satisfy the rising global demand for hot beverages.

"COVID-19 pushes all of us to re-think on economic recovery and growth in a new angle. Today, everyone needs to get together to do innovations in agricultural field as what India is doing, what Japan did, what Vietnam did. Because of COVID-19 health issue, Now-a-days, the world is highly concerned about healthy food. Sri Lanka should grab this opportunity and catch the global market through agro-innovations including our very own ayuredic herbal products" (*A Senior Lecturer in Business Economics, University of Sri Jayewardenepura*).

Cost minimization techniques

Another important factor that has been clearly observed in relation to the distribution process during the quarantine period is the high cost. The need of minimization of cost observed in stages of supply chain was highlighted by the participants. Therefore, recommendation of establishing cluster level rating and packing centers at district and provincial level would be highly advisable according to the point of view of a Professor in Economics, University of Colombo. Connecting such centers to a multimedia transport network with district and provincial level economic centers will reduce transportation costs and reduce post-harvest losses. In addition, as per an economic webinar considered in data collection, agricultural sector may benefit from the cost minimization for the fall in the prices of agrochemicals due to low oil prices. Using developed modern technology for agricultural activities also will help to minimize the unit cost of agricultural production

"During the lockdown period, we saw that transportation was a costly process because distribution played a big role during that period. If similar

situation comes again, we should have a readiness at least now to minimize the cost of distribution. I personally believe that cluster level rating and packing centers for each district or province which are connected through multimedia transport network is very important initiation that we need at the moment" (A Professor in Economics, University of Colombo.

Expanding systematic warehouse facilities as a solution for over-production
As per the ideas put forward by an Economist of Economic Research Department in the Central Bank of Sri Lanka, even before the outbreak of Corona pandemic, over production of agricultural products like watermelon, pumpkin, and pineapple, was a serious problem in the agricultural sector of Sri Lanka. However, still Sri Lanka has not taken remedial measures to stabilize a proper storage system to store the surplus output for the future use. As a result, the farmers have suffered a great deal due to loss or compelling them to sell their products at very low prices. As per the ideas added by participants including Professor in Business Economics, University of Sri Jayewardenepura, having a systematic, expanded storage system to store the agricultural products of farmers would pave the way to solve the arising problems.

"In the first wave period of COVID-19 in Sri Lanka, we saw that, there was a considerable food loss and wastage due to absence of broad warehouse facilities all around the country. (Professor in Business Economics, University of Sri Jayewardenepura).

"Since the government pushed public to cultivate during the lockdown era, an over production was emerged especially in crops like watermelon, pumpkin and pineapple. However, prices too were gone up in the market during the same period. To control these kinds of issues in the future & to stabilize the prices, an expanded warehouse system is really essential." (An Economist, Economic Research Department, Central Bank of Sri Lanka).

3.2 Industrial Sector
Three (3) themes were built as suggested through recommendations to achieve speed recovery in industrial sector.

Re-lifting the construction sector after COVID-19 disruption
According to the findings of this study, in the post COVID-19 period, the construction industry would be facing new challenges, including lack of cash flow, retention of workforce and additional pipeline uncertainty. Re-lifting of construction sector should be done gradually. Three stages can be suggested for systematic re-lifting process (Note: ideas of Accord Steering Group (ASG) were taken into consideration when formulating these stages).

Table 3: Steps to be taken for re-lift of construction sector at different stages

Stage	Steps to be taken
1. Pre-restart stage	• Motivate existing projects to move forward. Although construction sites are closed, other activities such as planning, procurement, planning, agreeing and maintenance planning can be preceded. • Eliminate barriers including inflexibility in legislation and government procurement rules in order to accelerate the restart • Identify additional shovel projects that can be started when the limitations are removed. The "shovel construction Project" (usually large- scale infrastructure) is a place where design and engineering is developed enough to start construction in a short period of time with sufficient funds. • Government should request agencies to pay contractors promptly or in advance and ensure that they are paid immediately to subcontractors and should request public institutions to take a consistent and equitable approach to the costs of stopping and closing sites. • Government should provide further business and employee financial aid and must support the residential sector.
2. Restart Stage	• Facilitate the placement and acceleration of shovel ready mobile projects across urban centers and areas for commencement of work • Government should take further medium- and long-term stimulus measures to help this sector move towards long-term resilience • Rapid mobilization of multi-party cooperation projects (e.g. a strong Christchurch infrastructure rebuilding team)
3. Post- restart Stage	• Improve the business performance through improved pipeline and promoting better business practices. • Provide greater assurance to subcontractors of expedited payment and retention protection. • Ensure the mental health of employees in the construction sector. • Improve procurement skills and practices with a focus on rapid mobilization of projects.

Source: Compiled by authors

Currently Sri Lanka has well recognized construction firms like MAGA Engineering, R & V constructors, A-N architects but the government still has not created platforms for them to reach International market in substantial scale. Therefore, it is better, if the country is capable of coming-up with strategic plans to uplift these constructors to the international levels.

Making case for cities as the major hubs of economic growth
According to the explanations of Senior Lecturer of Department of Business Economics in the University of Sri Jayewardenepura, the most badly affected businessmen could be found in the rural areas, not from city-based areas. Cities and especially downtowns offer a number of inherent benefits to businesses, such as access to many talented employees and access to a network of businesses. Finance Manager of AIESEC International showed the intention of Britain government to expand city hub in UK with use of statistics. Accordingly, even in Great Britain,

only 8 percent of the land is occupied by 55 percent of the businesses in the cities according to 2018 statistics of Centre for Cities. Therefore, British government is also looking forward to expand the city hubs for further growth in economy (Centre for Cities, 2018). Government could prioritize investments and interventions that reflect the role of cities and that will expand regional manufacturing sector while reducing the internal migrations. Accordingly, government can build up an economic framework to turn every city in to industrialized area and can invest in transportation infrastructure or job training that connects the surrounding cities and suburbs with economic opportunities.

"As I personally perceive, the impact on businesses due to COVID for rural area will be dangerous than the businesses in urban areas because rural businesses are not exposed to city facilities. Businesses centralized in cities will somehow manage to survive in the market. This will widen the rich-poor gap further" (A Senior Lecturer, Department of Business Economics, University of Sri Jayewardenepura).

I read a report of...........mmmm.....yes, report of Center for cities. It said that, even in UK only, 8% of land is covered by 55% of city businesses and currently UK government is looking for expansion. So, why Sri Lanka can't look into same aspect. I think we need to expand city hubs throughout the country and build platform for regional manufacturers to run manufacturing process within their own region without internally migrating to far" (Finance Manager of AIESEC International).

Attracting more foreign direct investments in post covid-19 period
Foreign direct investment (FDI) is an essential requirement for the development of the industrial sector during the post-COVID-19 period. Anyway, FDI inflow to Sri Lanka was not at a satisfied level in the recent past due to absence of conductive environment according to the interview discussion done with Executive Chairman of Lanka Harness co; (Pvt) Ltd Company. As a percentage of GDP, the FDI was at 2%, Malaysia was 3 - 4% and Vietnam was down 5 - 6% in 2018. Sri Lanka's FDI net inflow rate (as % of GDP) remained at 0.5% in 2020 (The World Bank Group, 2020). However, still there are ways in which Sri Lanka can attract more foreign investments. Many interview participants including Executive Chairman of Lanka Harness company and Economic research director of Central Bank of Sri Lanka put forwarded multiple strategies to attract FDI to Sri Lanka. Accordingly, measures such as improving supply and trade facilities, enhancing the innovation through competitive products and financial markets, ease restrictions on labor laws, equipping Sri Lankans with demand in the market, providing enabling logistics and the right infrastructure environment, ensuring economic & political stability and avoiding policy uncertainty, The Silver Line Encouraging Investment and Capital Flows, infrastructure development after the crisis, targeting sectors that could fast track economic recovery and growth can be suggested for the government as steps to be taken to win FDI attraction goal.

"As a country, we can't be satisfied about our FDI inflow even before COVID-19 crisis compared to other Asian countries. I think, what we should do first to attract more FDI is improving supply, trade and infra-structure facilities

along with bringing-up innovation to market. If country wants a long-run growth, government should encourage Silver line investments and capital inflows too." (Executive Chairman of Lanka Harness co; (Pvt) Ltd Company).

"No doubts... We should have good environment to attract foreign investors. No one will come and invest in Sri Lanka if we don't have political stability and if our regulations are strict on foreign investments. So, building that favorable political and legal environment is crucial" (Director-Economic Research, Central Bank of Sri Lanka).

3.3 Service Sector

Thematic analysis of this study found six (6) themes as potential policy recommendations to strengthen the service sector during the post-COVID- 19 period. Those will be helpful to lay the groundwork for transformation in the service sector.

Developing a technical strategy for Sri Lankan rail transportation

Former Presidential Election Candidate in Sri Lanka and Former Director of National Youth Service Council pointed the fact that, Sri Lanka's rail transportation sector remains at an under- developed standard. A strategic plan is necessary for the development of the rail transportation at least at the post COVID-19 era. According to expert ideas generated at the semi-structured interviews, Infrastructure, signaling, interoperability, planning, standards, costs, data, and safety are the eight main capabilities that should be considered by a country like Sri Lanka to introduce a framework for a technical strategy to be used in the development of rail infrastructure.

"Still our country has a railway system which was built by the British people during the colonial period. No considerable advancement is there. During COVID period, people had to use crowded trains although there was a risk to expose to virus. This happened because we didn't have expanded railway service in Sri Lanka in terms of number of trains and related infra-structure. The government should give special attention on Infrastructure, signaling while ensuring the safety and interoperability together to ensure smooth on-time transportation" (Executive Chairman of Lanka Harness co; (Pvt) Ltd Company and a Former Presidential Election Candidate in Sri Lanka).

As a normal passenger, I feel absence of well-structured plans and properly executing practical standards in Sri Lanka's railway system is the main reason for increasing complaints of public against local railway services. Data supply and Data collection in local railway service is also at a poor level, so that customers face lots of difficulties in terms of accessibility to railway data. By the way, government should not increase prices of train service because people are suffering with price hikes in private transport modes. (Former Director of National Youth Service Council).

Expansion of digital retail activities

As per to secondary data analysis, this study recognized that, even in the situation of a lockdown, there was a retail demand for food and essentials, and commercial demands from establishments like hotels which were significantly low. The curfew and the uncertainty that has been issued for disinvestment have disrupted supply chains. Due to the limited investment in online gateways, it is very difficult for retailers in Sri Lanka to scale their distribution operations to meet the demand for essential goods. Accordingly, all these experiences taught us the importance of expansion of digital retail activities. The "Digital Pola" concept originated recently provides digital platform for agricultural retailers. It is the responsibility of the government to set background for such innovations. An Economist of Economic Research Department in the Central Bank of Sri Lanka, one of the participants in the interviews, showed that, artificial intelligence (AI) technology and widespread customer service applications named chatbot have gradually been established by retailers. AI technology is not prepared to perform tasks that require creative thinking or common-sense thinking, but it has the ability of processing large volumes of data that people can personally do. Extension of this technology to the rural retailers is an essential requirement.

> *"Now a day, even Central Bank is also searching more on how retail trade can be more digitalized because we saw a need of having widely spread digital retailing due to this pandemic situation. Expansion of Chabot, Artificial Intelligence even to rural areas might help to expand digital trade in the country" (An Economist, Economic Research Department, Central Bank of Sri Lanka).*

Bridging the digital divide

Digital divide can be defined as the gap between those who have easy access to computers and the Internet, and those who do not. Former Director of National Youth Service Council highlighted this as a major factor for high rich-poor gap throughout the interview discussion. According to UNICEF, only 52.8 percent of young people in Sri Lanka were able to accesses internet in 2018. This was very far from the equitable level. During the quarantine period, the entire education system became stagnant, and the online lecture system failed mainly due to the uneven distribution of accessibility or influence of ICT among rural and urban students. Therefore, based on the lessons learnt during the COVID-19 period, the government should take necessary measures to make systematic plans to bridge the gap of digital-divide in the modern Sri Lankan society. It is high time to re-think about building an E-Sri Lanka. Telecentre project, community- based ICT initiatives, Google internet balloon could be used to narrow the digital division in Sri Lanka. These steps will help to connect Sri Lanka's 21 million people to the web, even those who live in remote, connectivity black spots. It will push country towards an e-learning and e-health care era.

> *"I saw some school children climbing rocks to find mobile signals for their online lectures. Some are climbing trees for the same purpose. But another set of children are enjoying 4G within their own houses. What's this inequality? Oh…god… This is one world … all are children. But god is treating differently. No…It's not the problem of god… Rulers can change the system. Why still rulers are*

not showing commitment on building Telecentre project, community- based ICT initiatives, Google internet balloon. If we had those things today, there will be no this much of gap. (Former Director of National Youth Service Council).

Cultivating innovative educational culture in higher education sector

Even though the society experienced few innovations during the COVID-19 period, the number of innovations is extremely low in comparison to the number of students enrolled for higher education in Sri Lanka. What could be the root cause for this issue? According to the interview, the explanation of the Former President of AIESEC Sri Lanka, Higher educational service sector in the country is still practicing "mass production" concept which was begun during industrial revolution period. That means, Sri Lankan universities and other higher educational institutions are still practicing the system in which lecturer is teaching to hundreds of students in a large lecture hall. This prevailing system obviously fails to awaken the hidden innovative talents of students. Therefore, it is time to cultivate innovative educational culture in the higher education sector of Sri Lanka by replacing traditional educational system with research based-solution oriented curriculum which will grow the solution-oriented thinking power of students.

"Still our educational system is traditional. Lecturer is teaching to hundreds of students in a large lecture hall & they are doing something called learning. This system might improve theoretical knowledge, but not the skills. That's why youth are suffering with prevailing uncertainty in education without attempting to find solutions to it. Solution-oriented skills were hidden with this traditional education system" (Former President, AIESEC Sri Lanka & Finance Manager, AIESEC International).

Extra focus on mental health

COVID-19 is not just a simple medical phenomenon. Psychological impact of this crisis is also a big issue in post COVID-19 period. It affects individuals and communities at various levels, including mental disruption. Depression, panic, stresses, anxiety, PTSD, depression have already been reported in countries. Patients with psychiatric illnesses are particularly vulnerable to these effects (Salari, et al., 2020).

Sri Lankans generally maintain a high level of social and physical contact. This is especially important in April as they celebrate the Sinhala and Tamil New Year with family and friends. Security measures such as curfew, lockdown and quarantine have disrupted the physical connectivity of the Sri Lankan community. This caused mental distress among the general public. Adults were at risk of death due to COVID-19. This caused fear among the elderly population, which in turn increased depression and anxiety. Further, increased unemployment due to curfew situation affected a wide range of stressors, from the daily wage worker to the businessmen. All government employees struggling with COVID-19 suffered from stress due to heavy workloads. In addition to that, some medical illnesses caused immune suppression; the patient's risk of infection should be high. They may be worried if they experience any symptoms that may be related to COVID 19.

Accordingly, mental health should be an important concern of the government in the COVID-19 period but the given priority for mental health by the government was at a low level even before the crisis. Therefore, it is time to increase it. This idea was followed by many participants including a Professor in Economics at the University of Colombo

"Social isolation, over workload to complete at home and the fear of getting into COVID risk were two main stresses even I experienced during lockdown period. Therefore, nothing to talk about businessmen's, highly socialized people's and elderly people's mental health during lockdown period. So, it's needed to treat for mental health of the people while treating for physical issue if another wave come in future" (Professor in Economics, University of Colombo).

Community nursing service system

One of the participants in the interviews, a Professor in Economics at University of Colombo brought the concept of community nursing system by showing importance bringing the concept in to execution stage to a country like Sri Lanka where the problem of ageing population is critical. Introduction of community nursing service system to Sri Lanka was a famous topic even in 1990s but sill the country does not have a proper systematic plan to implement this service throughout the island. However, physical distancing restriction due to COVID-19 refreshes the memory regarding continuous discussions on community nursing system. Ageing of population is a considerable problem even today and it will become a serious issue soon. Sri Lanka's population aged 65 and over grew at an average annual rate of 2.32% from 3.8% in 1972 to 11.6% in 2021 (Knoema, 2021).With regard to this complicated problem, introduction of a well-planned island-wide community nursing service system to Sri Lanka is a timely step that the government should take in post COVID-19 period.

"As I can remember, introduction of community nursing service system to Sri Lanka was a famous topic even in 1990s but sill the country does not have a proper systematic plan to implement this service in Whole Island. I think, this COVID time is hardest time which we all feel the importance of community nursing system. Especially as a country in which population ageing is at a growing rate, we need it a lot" (Professor in Economics, University of Colombo).

4. Discussion and Conclusion

This study was carried with the intention of recognizing the potential policy reforms to re-build Sri Lanka's real sector in Post COVID-19, under the three (3) sectors namely agricultural sector reforms, industrial sector reforms and service sector reforms. The study collected primary data through qualitative data collection approach named semi-structured interviews. In addition to that, the information presented and reviewed in this study are taken from several updated secondary sources such as analytical reports of Non-Governmental Organizations (NGO) and corporate sector, website of local and foreign organizations, Webinars organized by local and foreign entities. Qualitative data was analyzed through widely cited theoretically flexible approach to Thematic Analysis called reflexive thematic

analysis approach which was introduced by Virginia Braun and Victoria Clarke (2006).

Thematic analysis of this qualitative study found five (5) themes as the policy reforms to achieve progress in the agricultural sector during the post-COVID era. Centralized Backward and Forward Information Linkage System, Creation of Local Cultivation Trends and Import Substitution, Agro Innovations in Post COVID-19 Period, Cost Minimization Techniques, and Expanding Systematic Warehouse Facilities as a Solution for Over-Production can be cited as those five themes. These finding were supported by previous literature too. The importance of using centralized information linkage to connect all partners in the supply chain was also highlighted in Overarching Agriculture Policy (Draft) too (Ministry of Agriculture, Rural Economic Affairs, Irrigation, and Fisheries, And Aquatic Resources Development, 2019). Expansion of warehousing industry which is in the above findings was followed by recent literature on logistics for future Sri Lanka (Karunarathna, Wickramarachchi, & Vidanagamachchi, 2019. Furthermore, These themes were supported by publication of Asian Development Bank (ADB) and editors attached to that argued that new cultivation trends and Import Substitution can contribute for vast improvement in Sri Lanka's agricultural sector (Athukorala et al., 2017). In contrast, some scholars argued that import substitution is not appropriate for agricultural sector. Moreover, those researchers showed that the growth of the agricultural sector has made a significant contribution to the overall GDP to accelerate the economic growth of Sri Lanka under liberalization, not under protectionism (Silva, Malaga, & Johnson, 2013). This creates a hot debate on whether to move to protectionism policy or liberalization policy for Sri Lanka's agricultural sector in post COVID era. This is an essential topic for further studies.

Moreover, three (3) themes were identified as potential reforms to re-build Industrial sector in a strategic way. Those are the Re-Lifting the Construction Sector after COVID-19 Disruption, Making Case for Cities as the Major Hubs of Economic Growth, Attracting More Foreign Direct Investments in post COVID-19 Period. Themes constructed as policy reforms for Sri Lanka's industrial sector were too followed by past literature. The strategies found under the theme of "Re-Lifting the Construction Sector" were supported by global research articles focused on lessons to be learned from impact of COVID-19 on the global construction industry (Ogunnusi, Omotayo, & Hamma-Adama, 2022). Durantan and Puga put forward a similar idea which supported the theme related to establishment of major city hubs. They identified the Agglomeration economies and human capital as key drivers of city growth (Duranton & Puga, 2013). Further theme related to FDI attraction was also vastly emphasized in international literature and showed the value of inflow of skilled manufacturing workers to Sri Lanka as a prior contribution to expand industrial sector (Moran et al., 2017).

Finally, this study recognized 6 (Six) themes as policy reforms to revive post COVID Sri Lanka's service sector. Ensuring the continuous flow of service-related activities, developing a Technical Strategy for Sri Lankan Rail Transportation, Expansion of Digital Retail Activities, Bridging the Digital Divide, Cultivating Innovative Educational Culture in Higher Education Sector, Extra Focus on Mental Health, Community Nursing Service System can be cited as those policy

reforms. Findings of Wattegama (2021) supported a couple of the key themes namely "Expansion of Digital Retail Activities" and "Bridging the Digital Divide". He showed that, Sri Lanka should integrate into the digital economic strategy, in order to accurately identify successful international approaches and recognized that Sri Lanka is in need of building matured market for Ecommerce, education technology, or fintech (Wattegama, 2021). The service sector reform themed "Extra focus on Mental Health" was followed by Benjamin G. Druss. He pointed the need of addressing post COVID mental illnesses generated mainly because of social distancing, through expansion of mental health policies and strengthening of mental health care system (Druss, 2020). Another interesting key theme which suggested practicing "Community Nursing Service System" in Sri Lanka as a lesson learnt from COVID-19 pandemic situation was strengthened by Singapore Scholars too and they showed that community nursing team is a crucial determinant of pandemic preparedness. Further, they also showed how team segregation, active screening and triage before visits and other precautionary measures taken under community nursing system helped to minimize the risk of exposure to potential epidemic or pandemic situations (Yi et al., 2020). In contrast, gap between the sub-acute patient and the very ill patient who needs treatment for 24 hours and inability to bring advanced technology into the home were pointed by Keely Brown as drawbacks in community nursing system (Brown, 1997). Therefore, this debate opened up path to further study on applicability of community nursing system for developing country like Sri Lanka.

One of the key limitations identified in this study is the lack of diversity among the participants in the sample. This research might be improved if more participants coming from multiple and diverse background. However, this study successfully suggested possible policy changes needed to be executed immediately to fasten the recovery and growth in post-COVID era.

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