Implications of China's Belt and Road Initiative (BRI) in HRD in Sri Lanka's maritime logistics sector

The global logistics industry is evolving rapidly, and qualified logisticsrelated workers are in short supply on all occupational levels, and Sri Lanka is no exemption to this. Therefore, if Sri Lankan wanted to be a maritime logistics hub, the Sri Lankan workforce in the maritime logistics sector needs to be able to adapt, and having the right skills and training is vital. However, there is no research available to understand the current skills gap in Sri Lanka's maritime logistics sector. Though, this study suggests that China's Belt and Road Initiative (BRI) supports partner countries' efforts in infrastructure and human resources development, and Chinese firms engage in substantive skills transfer in partner countries. As Sri Lanka is one of the vital nodes along the BRI, China is investing in Sri Lanka's infrastructure projects includes the maritime logistics sector. However, this study failed to identify the implications of BRI in HRD in maritime logistics sector, therefore further studies are needed.

Keywords: BRI, China, HRD, Maritime Logistics, Skills, Sri Lanka.

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23 Introduction

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China's interest in the Silk Road visions of land and maritime logistics and 25 communications networks connecting Asia, Europe, and Africa - now 26 dominated by 'Belt and Road' slogans. Belt and Road Initiative (BRI) is aimed 27 28 at exploring the unique values and concepts of the ancient road, enriching it 29 with new meaning for the present era, and actively developing economic partnerships with many countries and regions situated along the route. BRI 30 31 seems to be a potentially huge collective of current, planned, and future 32 infrastructure projects, accompanied by a host of bilateral and regional trade agreements. Ongoing and planned projects will focus on the developments of a 33 34 wide array of assets, including ports, roads, railways, airports, power plants, oil 35 and gas pipelines, and refineries, and Free Trade Zones, as well as a supporting 36 IT, telecom, and financial infrastructure.

37 The Indian Ocean plays a major role in BRI as the key Eurasian shipping route, in facilitating China's overseas trade and the transportation of fuel and 38 39 raw materials. Therefore, Sri Lanka is seen as one of the vital nodes along the 40 maritime silk route. China is very optimistic about Sri Lanka's prospects as a strategically located platform economically and militarily therefore Chinese 41 investors are keen on investing in Sri Lanka (Karunarathne, 2018). Therefore, 42 Sri Lanka can harness this opportunity to complete the hard and soft 43 44 infrastructures which are a serious obstacle to develop Sri Lanka as a maritime 45 logistics hub in the Indian Ocean, fully leveraging its conducive geographic location. 46

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1 Even though Sri Lanka is in an advantageous position compared with 2 many other South Asian nations when it comes to connectivity, Sri Lanka's 3 shipping industry remains primarily a trans-shipment-driven industry. In this 4 context, to become a maritime logistics hub, Sri Lanka must position itself as a 5 major global industry player to provide broader services in shipping and 6 logistics. However, Sri Lanka still lacks a number of the region's other leading 7 hubs, including Hong Kong, Singapore, and Dubai. This indicates a need for Sri Lanka to improve the quality of its logistics services. In addition, Sri Lanka 8 9 is encountering challenges in access to a sufficient number of qualified 10 professionals and international participants in the logistics field (Chan, 2015). As China has accumulated useful expertise and experience in the maritime 11 12 logistics sector, China can collaborate with Sri Lanka in human resources 13 development.

However, no previous studies have been done on this topic to determine the implication of China's BRI in HRD in the maritime logistics sector, therefore, this study was conducted to assess the Sri Lanka maritime logistics sector human resources development in connection with China's BRI by focusing on below-given research questions.

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- Is there any skills gap in Sri Lankan's maritime logistics sector?
- Can Sri Lanka benefit from BRI in HRD in the maritime logistics sector?
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25 Literature Review

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The Belt and Road Initiative

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The Belt and Road Initiative (BRI) is a development strategy and framework which consists of two main components, the land component, known as the "Silk Road Economic Belt" and the sea component called the "Maritime Silk Road". It was unveiled by Chinese President Xi Jinping in September and October 2013 in announcements revealing the Silk Road Economic Belt and Maritime Silk Road, respectively. Also, it was thereafter promoted by Premier Li Keqiang during the State visit in Asia and Europe.

36 The "Belt" includes countries situated on the original Silk Road through 37 Central Asia, West Asia, the Middle East, and Europe will consist of six economic corridors connecting China to the far reaches of Eurasia by road and 38 39 rail. The "Road" (Maritime Silk Road) is a complementary initiative aimed at 40 investing and fostering collaboration in Southeast Asia, Oceania, and North 41 Africa, through several contiguous bodies of water – the South China Sea, the South Pacific Ocean, and the wider Indian Ocean area. The "Road" will 42 involve the development of ports and shipping routes connecting Chinese 43 harbors to Europe and the South Pacific. To date, up to 140 partner countries 44 45 have signed documents on Belt and Road cooperation with China, the trade between China and BRI partners has exceeded 9.2 trillion US dollars and direct 46

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investment by Chinese companies in countries along the Belt and Road has
surpassed 130 billion US dollars (Yi, 2021). BRI is also supported by some
newly created financial institutions such as the Asian Infrastructure Investment
Bank (AIIB), the New Silk Roads Fund (NSRF), the Chinese government's
foreign exchange reserves, and several of its largest state-owned banks (Silk
Road Briefing, 2019).

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Sri Lanka – China Relationship

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10 Sri Lanka has a long-term, multi-dimensional and deep-rooted relationship with China. Sri Lanka-China Relationship is centuries old and has been 11 12 historically strengthened by shared religious and cultural values in addition to trade and commerce. The opening of relations with China was historically far 13 14 more significant and Sri Lanka entered into her first trade/payments agreement 15 called as 'Rubber-Rice pact' in 1952 since independence (Ukwatta, 2014) which continued to be renewed and expanded into areas of broader cooperation 16 leading to a long and lasting friendship between the two countries. 17

18 China's support has laid a remarkable foundation for the development of 19 Sri Lanka. Today, mega projects such as the Colombo South Container 20 Terminal, Norochcholai coal power plant, Colombo-Katunayake expressway, Southern expressway, A9 road, Mattala international airport, Hambantota port, 21 and Nelum Pokuna theatre have become the new landmarks of the China-Sri 22 Lanka relationship (Kelegama, 2014). The rapid increase of Chinese tourists in 23 Sri Lanka has become a new trend of the China-Sri Lanka relationship. Direct 24 25 flights between Chinese major cities and Colombo have been a new normal. It is also a new tendency for Sri Lankans to do business, travel, and study in 26 China. The exchanges and cooperation in various fields such as education, 27 28 religion, culture, and science and technology keep expanding.

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30 Sri Lanka's Maritime Logistics Sector

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32 Sri Lanka is an island country in the Indian Ocean, strategically located at 33 the crossroads of both east and west sea routes and serves as the point of entry 34 to South Asia, lucrative Middle Eastern markets, and rising African markets, 35 while the growth engine that is India lies just 20 miles away is seen as one of the vital nodes along the maritime Silk Road. Sri Lanka has a distinct 36 37 locational advantage, which could support Sri Lanka to develop as a key 38 logistics center in the Indian Ocean by catering to South Asian and Bay of 39 Bengal countries. As Sri Lanka is in a good position will have a great 40 advantage in the production of goods and services supported by efficient 41 logistical facilities and less transaction cost. For many centuries, Sri Lanka had 42 been at the center of the historical Silk Road connecting Europe and China.

Even though Sri Lanka is in a good position in order to secure its position
as a regional logistics center, Sri Lanka needs huge investment in physical
infrastructure and human resources development (HRD). Sri Lanka needs
investments in the country's maritime hard and soft infrastructure, particularly

in the Hambantota Port, the Colombo Port, and the Trincomalee Port to be 1 2 competitive. And overseas participation in the development of human resources, introduction of advanced technology, and boost business know-how 3 4 is also essential. The development of high-quality human resources in the 5 maritime logistics sector is essential to support the economic future. The 6 logistics sector is vital to a countries economy. It is seen to be a critical enabler 7 in improving the competitiveness of the nation and local economies 8 (Department for Transport, 2011).

9 The global logistics industry is evolving rapidly, and it is the interplay of 10 infrastructure, technology, and new types of service providers to help its 11 customers reduce their logistics costs and provide effective services. And the 12 logistics focus is moving towards reducing cycle times in order to add value to 13 their customers. Consequently, better tools and strategies are being sought by 14 firms in order to enhance their decision-making. There have been dramatic 15 changes in the mode of world trade and cargo transportation, characterized by the prevalence of business-to-business and integrated supply chains. These 16 17 changes have been embodied in the increasing demand for value-added 18 logistics services and the integration of various transportation modes. The rapid increase in world trade in the past decade has restructured the global maritime 19 20 industry and has brought about new developments and increased competition. 21 Gudehus & Kotzab (2012) said that "Maritime logistics is quite a new, integrative approach to modern shipping" and the main purpose of maritime 22 logistics is to convey cargo with ships on rivers, channels, and seas at minimal 23 costs, fuel consumption, and emissions. Optimal shipping networks and 24 25 maritime transport chains are mandatory for this.

26 Technological systems are considered to be a 'competitive weapon' for the logistics sector (Piplani et al, 2004). These systems can be any hardware or 27 28 software that automates basic operational processes. However, to gain a 29 competitive edge from these technologies, expert knowledge or specialised 30 skills are needed particularly IT skills and analytical skills. Due to 31 technological change, logistics sector consumer demand and environmental factors are also undergoing continual change. Therefore, the workforce in the 32 33 logistics sector needs to be able to adapt and have the right skills and training 34 to compete.

35 Even though Sri Lanka is in an advantageous position compared with many other South Asian nations when it comes to connectivity still needs to 36 37 compete with the likes of Singapore and Dubai. Major shipping lines call over 38 at the Port of Colombo, primarily to transship the volumes of containers to the 39 Indian Sub-Continent (ISC). India, Bangladesh, and East African countries 40 account for approximately 70 percent of the port's volume, according to ADB 41 (2016). The remaining 30 percent is local traffic, driven by garment, tea, and 42 rubber exports, and consumer products, and industrial and agricultural 43 equipment imports. As Sri Lanka gets most of its business from India, 44 overreliance on Indian transshipment will harm Sri Lanka if India develops its harbors. Currently, the Indian government, through its Sagarmala initiative, is 45 46 building six new major ports, including Colachel at the southern tip of Tamilnadu state and Vizhinijam, a short distance north in the state of Kerala, in what appears to be an effort to reduce reliance on Colombo (Sagarmala, n.d.). Indian ports plan to offer Mega container terminal points and specialized facilities to take charge of larger vessels and this will potentially obtain a significant portion from the transshipment handling market of Western India, Pakistan and in Gulf region, this might be a commercial threat to Sri Lanka's transshipment activities.

8 Besides global shipping lines tend to prefer working with global terminal 9 operators as they show varying degrees of involvement in the main cargo 10 handling markets around the world and possess some competencies that would bring advantages in the areas of market power, marketing skills, technological 11 12 expertise, and access to cheaper sources of finance. Likewise, global terminal operators often have central purchasing departments at their headquarters 13 14 involved in making large contracts to servicing the world's major commercial 15 gateways. Sri Lanka is not a mega ship owner and lacks the global scale or capital to develop that level of shipping activity. In this context, to become a 16 hub Sri Lanka must position itself as a major global industry player to provide 17 18 maritime services to Sri Lanka and to the region beyond.

19 The volume of base cargo could be increased by expanding Sri Lanka's 20 services in the form of value addition through Sri Lanka by import, add value and then export to other countries. It could be offered by way of developing 21 logistics capabilities to provide the most modern warehousing infrastructure 22 23 facilities for temporary storage and deliver through "Just-in-time" supply chain management systems to large manufacturing companies in the neighboring 24 25 Indian Sub-Continent countries. Sri Lanka can attract powerhouses in our 26 region India and China to use Sri Lanka as an exporting center as well, allowing them substantial cost savings in terms of logistics as well as shorter 27 28 delivery times.

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30 BRI Cooperation in HRD

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32 China, after nearly 40-year of reform and opening-up, has accumulated 33 rich experience in industrialization and modernization. The Chinese capital, 34 technology, market, enterprises, talents, rich experience, know-how will have a 35 great chance to benefit if other countries work together for a shared vision. Gu (2015) states that China emphasizes that aid should be used to help recipient 36 37 countries build up their self-development capacity. Chinese President Xi 38 Jinping (2017), in his keynote speech at the opening ceremony of the Belt and Road Forum for International Cooperation in Beijing, stated that "Mutual 39 40 learning - The ancient silk routes were not for trade only, they boosted flow of 41 knowledge as well. Through these routes, Chinese silk, porcelain, lacquer 42 work, and ironware were shipped to the West, while pepper, flax, spices, grape, and pomegranate entered China. Through these routes, Buddhism, Islam, and 43 44 Arab astronomy, calendar and medicine found their way to China, while China's four great inventions and silkworm breeding spread to other parts of 45 the world. More importantly, the exchange of goods and know-how spurred 46

new ideas. For example, Buddhism originated in India, blossomed in China,
 and was enriched in Southeast Asia. Confucianism, which was born in China,
 gained appreciation from European thinkers such as Leibniz and Voltaire.
 Herein lies the appeal of mutual learning".

5 In 2015, the National Development and Reform Commission, Ministry of 6 Foreign Affairs, and Ministry of Commerce of the People's Republic of China, 7 with State Council authorization (2015) jointly issued the Vision and Actions 8 on Jointly Building Silk Road Economic Belt and 21st Century Maritime Silk 9 Road, outlining the background, principles, framework, priorities, mechanisms, 10 actions taken by the Chinese government and the country's regional opening 11 progress. The planning on education exchange in the document is as follows:

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- Expanding the scale of student exchange and promoting education cooperation; providing 10,000 government scholarships to countries along the Belt and Road every year.
- Intensifying personnel exchange and cooperation among countries along the Belt and Road.
- Integrating resources already in place to foster cooperation on youth employment, entrepreneurship training, vocational skills development, social security management, public administration and management, and other relevant areas among countries along the Belt and Road.
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23 According to KPMG (2018), BRI markets at the early stage of 24 industrialisation and will have limited pools of skilled or experienced unskilled 25 labour that can be relied upon to support BRI activities. Therefore, companies should ensure that they are prepared enough to respond and adapt to new 26 27 opportunities along the Belt and Road. This includes ensuring the right 28 capabilities and organizational structures are in place and managing that 29 transition. UNDP (2017) stated that the BRI can generate opportunities for 30 inclusive growth and profoundly improve participating countries' HRD if investments are well channelled. In terms of HRD, people-to-people bonds in 31 32 the BRI may be best promoted through the supply of specific skills as most of the BRI participating countries are developing countries with incomplete 33 34 education systems. BRI counties need capital, technology, specialist skills, 35 especially engineering expertise and experience in undertaking projects.

36 According to the World Bank report (2018), FDI brings potential benefits 37 to the host country through a variety of channels including linkages with the 38 local private sector. Linkages between foreign firms and local suppliers enable 39 knowledge and technology transfer, including know-how and practices that 40 allow domestic suppliers to upgrade the quality and efficiency of their 41 production. Foreign investment brings a wide range of knowledge, technical 42 know-how, managerial and organizational skills, and access to foreign markets 43 with the potential to bring positive spillovers for the host economy (World 44 Bank, 2018). Spillover effects are indirect effects of inward FDI which brings 45 unintended transmission of knowledge and skills from the FDI enterprise to 46 domestic enterprises via demonstration effects and/or worker mobility.

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1 Therefore, the movement of personnel is widely recognised as a mechanism for distributing tacit knowledge and skills across space and time (Cooper, 2001). 2 As personnel is knowledge carriers (Grant 1996), when they move, they bring 3 their new knowledge that the organisation previously did not have. An 4 organisational knowledge base contains both organisational and personal 5 6 knowledge which can be used by the organisation as resources to generate competitive advantage. Therefore, when Chinese companies establish joint 7 ventures with local companies for investment and technology transfer, then 8 9 local companies can make use of their internationally recognized technical and management knowledge. This is the same to the maritime logistics sector as 10 well. China is well-equipped in providing the necessary maritime logistics 11 12 skills and experiences; therefore, the participating countries should use this opportunity to improve their human resources development. 13

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16 Methods

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18 The data collection method relies on desktop research which entails a 19 thorough examination of relevant information online from previous studies and documents collected from relevant published sources since BRI launched in 20 2013 such as World Bank and ADB, publications in relation to the maritime 21 logistics sector and HRD, and other literature about China's BRI. This includes 22 reports, articles, policies related to the BRI as well as statistical data from Sri 23 Lankan and Chinese government departments. From this search, the authors 24 25 found related articles that discuss the study on BRI and HRD in all domain areas. This can be done by using the selected database to extract the relevant 26 research articles or reports by searching the title and abstracts with a pre-27 28 determined search term. From the data selected, the coding paradigm was 29 applied to build the answers to each question.

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32 Findings and Discussion

The sections below present the answers for the research questions.

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Demand for Skills in the Sri Lanka Logistics Sector

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38 A country's economy can become more productive with help of highquality human resources. Human resources are the fundamental source of 39 40 economic growth. It is a source of both increased productivity and 41 technological advancement. According to Westphalen (1999), human resources is defined as: "the knowledge, skills, competencies and other attributes 42 embodied in individuals or groups of individuals acquired during their life and 43 44 used to produce goods, services or ideas in market circumstances". Given the fast-paced growth the global economy is witnessing, experts across the world 45 have stressed that investing in education alone is insufficient and it is essential 46

to emphasize skills and talent development if any nation is to thrive and sustain
 itself in the ever-evolving world.

The change in economic growth and structure has increased the demand for Sri Lankan labour as well, and the skills gap also has emerged in the changing Sri Lankan labour market (ADB, 2017). Therefore, Sri Lanka needs to invest in human resources development especially in the maritime logistics sector which is vital for a country's economic growth and maintaining competitiveness to prepare itself to have a workforce that is capable to support Sri Lanka to become a logistics centre in the Indian Ocean.

10 According to a recent study, global demand for skilled logisticians is likely 11 to continue to grow rapidly as the level of logistical activity rises and the 12 technical sophistication of the function increases (World Bank, 2017). Further, 13 this study shows that the growth of other sectors will also depend indirectly on 14 the ability of logistics to cope with expanding freight and trade volumes. On 15 the operational, supervisory, and managerial levels, logistical activities are labor-intensive (World Bank, 2017). This makes the logistics performance of 16 17 companies and countries highly dependent on the quantity and quality of the 18 workforce (Jhawar et al., 2014). Logistics will only be able to do this if it is adequately staffed with skilled employees. Most logistics-related activity is 19 20 now outsourced to the Third-Party Logistics (3PL) sector. The large 3PL 21 companies with multi-national coverage need to "customize" their workforce to the logistical characteristics of the countries in which they operate, reflecting 22 23 the freight modal split, the industry and product mix, the level of technology, the structure of the logistics market, and cultural attributes. 24

25 In 2017, The World Bank study of Logistics Competencies, Skills, and Training, a global overview "Both the Logistics Performance Index (LPI) 26 27 survey and the survey carried out for this study show a general perception 28 across the logistics sector that qualified logistics-related labour is in short 29 supply on all occupational levels in both developed and developing countries. 30 Shortages range from a lack of truck drivers to problems in filling senior 31 supply chain management positions. The World Bank (2017) studies in countries such as China, India, the United States, the United Kingdom, 32 33 Vietnam, and the Republic of Korea have reported that businesses are having 34 difficulty recruiting staff with the required skills in logistics/supply chain 35 management. Respondents in developing countries point to the supervisory 36 level for the most severe perceived skills shortage. In developed countries, 37 skills shortages were perceived at all levels, but at a much lower level. This 38 suggests that this problem is likely to remain the same or worsen over the next 39 five years, therefore, logistics workers need to possess a wide range of skills 40 (Derwik et al., 2016)

As port equipment and operations have also adapted to and incorporated more advanced processes, the sector's ability to place competent, well-trained staff familiar with the technology has not kept pace (Flint, 2013). Sophisticated operating systems demand that in-house teams possess a wider range of knowledge, however, there are few well-trained executives in the logistics center and a lack of qualified staff at the operational level, (McKinnon et al.,

1 2017). And not only do logistics employers find it tough to recruit good 2 candidates for positions, but many existing employees are not sufficiently qualified as well, this skills shortage is likely to worsen in the absence of new 3 4 initiatives. The World Bank (2017) report said that to curb the shortage "there needs to be a substantial increase in the amount of time and resources devoted 5 to logistics training at all levels." In addition, skilled logistics workers in 6 7 developed countries should share their skills and knowledge with those in 8 developing countries, it said.

9 In order for the Sri Lankan industry to evolve beyond this, it is necessary 10 to see the development of broader services in shipping and logistics to truly become a maritime hub. However, Sri Lanka was ranked 92nd out of 167 11 12 countries in the World Bank's 2018 aggregated Logistics Performance Indicator (LPI) combines the four most recent LPI editions. Scores of the six 13 14 components across 2012, 2014, 2016, and 2018 LPI surveys were used to 15 generate a "big picture" to better indicate countries' logistics performance. Sri Lanka scored 2.64 on logistics competence (competence and quality of 16 logistics services, e.g., transport operations and customs brokers), compared to 17 18 India's 3.18, UAE's 3.83, Hong Kong's 3.94, and Singapore's 4.08.

19 According to Edirisinghe (2013), the firms engaged in logistics activities 20 in Sri Lanka have failed to utilize modern systems and infrastructure facilities adequately and effectively. Improving logistics performance has become an 21 important development policy objective in recent years because logistics have a 22 23 major impact on the economic activity of Sri Lanka. But unfortunately, the Sri Lankan education system does not cater to the rising needs of the logistics 24 25 industry and there is limited education available for areas such as supply chain, 26 logistics, and international trade at vocational and tertiary institutes (MoDSIT 27 & EDB, 2018).

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29 The Benefits of BRI in HRD

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31 McKinsey research shows that Chinese firms engage in substantive technology transfer in Africa. Likewise, BRI is bringing the Asian country's 32 infrastructure capital and know-how to developing countries involved in its 33 34 expansion (Xuequan, 2018). According to Sun et al. (2017), nearly half of Chinese firms in Africa have introduced a new product or service to the local 35 market, and more than one-third have introduced a new technology. For 36 37 example, a Kenva-based mobile telecommunications operator Safaricom's 38 mobile payment initiative M-Pesa provides cellphone-based banking services 39 to tens of millions of people in East Africa and beyond. It is recognized as a 40 world-leading African innovation that has used technology to leapfrog 41 traditional financial services models. Safaricom it is relying on Chinese 42 technology specifically the Mobile Money platform developed by China-based 43 Huawei (Sun et al., 2017).

As part of BRI Chinese port operators are also involving in several ports in
the Asia–Europe maritime corridor. The Chinese-operated terminals around the
Indian Ocean were built or improved by Chinese construction companies such

as COSCO, Shanghai International Port Group, China Shipping Group, 1 2 Hutchison Port Holdings, China Overseas Port Holdings, China Merchants Holdings (International) Company (Putten & Meijnders, 2015). Furthermore, 3 4 China also introducing a port-alliances strategy between China's seaports and 5 other country's port. For example, ten of China's seaports such as Dalian, 6 Shanghai, Ningbo, Qinzhou, Guangzhou, Fuzhou, Xiamen, Shezhen, Hainan, and Taicang involved port-alliance with six main seaports from Malaysia 7 which include Port Klang, Malacca, Penang, Johor, Kuantan, and Bintulu 8 9 (Jeevan et al., 2016). This partnership and seaport-alliances with China will 10 develop the human capacity building, execute technology transfer, improving 11 manpower training (Jeevan et al., 2016).

12 A McKinsey report involving a study of 1,000 Chinese firms in eight 13 African countries stated that the Chinese firms of all sizes and sectors are 14 bringing capital investment, management know-how, and entrepreneurial 15 energy to every corner of the continent and in so doing, they are helping to accelerate the progress of Africa (Sun et al., 2017). Further, this report found 16 17 that at the more than 1,000 companies, 89 percent of employees were African, 18 adding up to more than 300,000 jobs for African workers and almost two-thirds of the firms provided some form of skills training to their employees. 19

20 DFID-ESRC Growth Research Programme in Madagascar also revealed 21 that Hunan Agri (an agricultural firm) had set up an agro-technology 22 demonstration centre to teach local farmers how to produce a new variety of 23 hybrid rice (Calabrese, 2018). Further, the same research revealed that another Chinese company, Tianli Agri, has set up 15 training centres run by Chinese 24 25 technicians to teach cotton planting and farming techniques to locals in 26 Madagascar. Likewise in Malawi, the China-Africa Cotton Company manages 27 an agricultural technology demonstration centre tasked with showing local 28 farmers how to improve the productivity of their crops, for example through 29 improved field management (Calabrese, 2018). Further in Ethiopia, one of the 30 world-leading women's shoemakers Huajian Group (Huajian) which opened a 31 factory in Ethiopia in 2011, sends 100 Ethiopian workers every year to China for a 6-month management training (UNDP China, China Development Bank 32 33 & the School of Economics, University, 2017). China's Huawei also 34 contributes to training and skills development in Nigeria's telecom sector via 35 multiple routes: internal employee training activities; training for clients and 36 partners; and training programs in partnership with the Nigerian government 37 (Agbebi, 2019).

38 A diversified Chinese SOE called AVIC has set up technical and 39 vocational training programs in six African countries to develop the skills needed not only for its own subsidiaries but also for other Chinese companies 40 41 (Sun et al., 2017). In Gabon, for example, AVIC has set up training programs 42 focused on machinery, electronics, aeronautical maintenance, and other skills 43 for the country's petroleum and timber industries. According to a McKinsey 44 report, the company also helped launch the Africa Tech Challenge, a competition aimed at building technical skills such as machining and mobile app 45 development. Initially focused on Kenya, the contest now also covers Ghana, 46

Uganda, and Zambia (Sun et al., 2017). The winners receive cash rewards and an
 offer for full-time employment with AVIC. Some companies include training and
 study in China as part of their workforce skills development.

4 In Kenya, some workers have gained skills at the technical and managerial 5 level via on-the-job training in Chinese firms and managed to leverage those skills 6 to start their own business (Calabrese, 2018). According to Nyantakyi et 7 al. (2019), in Ghana, Chinese and other foreign enterprises contribute positively to 8 local skills development through the provision of both short-term general training 9 and long-term specific training to locally hired workers than local enterprises. And 10 the likelihood of receiving training, especially short-term general training, is higher for local employees working in Chinese enterprises than their peers 11 12 working in indigenous and other foreign enterprises. If we take Eastern Industrial Zone (EIZ) in Ethiopia as a case study, Chinese companies recruit 13 14 many more Ethiopians than Chinese expatriates, with a workforce localization 15 rate between 80 and 99 percent, and sixty-one percent of surveyed workers reported having received employer-sponsored training (Fei, 2018). 16

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19 Conclusion and Implications

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21 Sri Lanka has a distinct locational advantage, which could support Sri 22 Lanka to develop as a key maritime logistics centre in the Indian Ocean. However, the global logistics industry is evolving rapidly, therefore, the Sri 23 Lankan workforce in the logistics sector needs to be able to adapt and have the 24 right skills and training to compete. However, this study indicates that Sri 25 26 Lanka lacks efficient logistics services and qualified professionals in the logistics field and the education system also does not cater to the rising needs. 27 Though there are no studies done in the maritime logistics sector to identify the 28 29 exact skills gaps in Sri Lanka's maritime logistics sector.

Further findings of this study also show that BRI supports bringing new technology and knowledge to the host countries and facilitate HRD. As China has accumulated useful expertise and experience in the maritime logistics sector, China can collaborate with Sri Lanka in HRD. Yet, no studies show the benefits and implications of HRD in Sri Lanka's maritime logistics sector.

In looking over the results and the questions raised in this study, the authors recommend future work in this area. Hence, we recommend that:

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- What are the skills gaps in Sri Lanka's maritime logistics sector?
- What are the implications of China's BRI in HRD in the maritime logistics sector?
 - What policy level changes are needed to enhance the benefits of BRI in HRD in the maritime logistics sector?
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