

## A Holistic Approach to National Security of Sri Lanka

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**Abstract**— Most spoken effects of the 9/11 Chapter seem to fade away with the new development of the COVID 19 pandemic situation and beyond today. Priorities for security does not limit to terrorism where the world is discussing pandemic security, economic security, environmental security, and social security at large. However, it is not a new concept, and some countries are adopting similar strategies to manage their national interests since national security always depends on each nation's interests. Hence, it is pertinent to study the holistic approach to national security and see whether it is suitable for developing nations like Sri Lanka. First, Researchers selected countries already adopted a holistic approach to their national security for background study. Having considered Chinese, Indian, Pakistan, Singapore, USA, and United Nations (UN) approaches to national security, researchers decided ten important components to analyze as the literature. Moreover, the Global Peace Index (GPI) 2019 was used to select the most peaceful, average, and least peaceful five countries each to analyze whether those results have any impact on their approaches in particular. Finally, threat perception was taken into consideration to select the most suitable aspects to form a holistic approach to the national security of Sri Lanka and suggested an appropriate holistic approach to Sri Lanka by considering those factors and the present situation.

**Keywords:** *Holistic approach, National Security, Sri Lanka*

### Introduction

A logical and semantic approach to defining national security leads to ambiguous and

inconclusive conclusions. Even though there is no universally accepted definition, the military aspect is the core of national security, but still, it is not the sole value (Cheng Bian, 2020). The Oxford dictionary gives a simple definition of national security as the safety of a nation against war, terrorism, or espionage. However, it is more complicated than we think today. Further, Ahmad Faruqui (2002) stated that national security is not the country's military combat effectiveness while indicated nonmilitary dimensions such as firm foreign policy, economy, social cohesion, and political

leadership. Hard military assets listed as the fifth dimension. Still, the scholars around the globe haven't agreed to a universal definition of the topic. Depending on their interests, different nations define national security to serve their motherlands. With that, the researchers' next focus was to find the national interests of Sri Lanka.

According to the literature, the definition of national security deals with national unity, territorial integrity, sovereignty, save national interests and values against both internal and external threats, freedom from fear of attack, political, economic and social values, democracy, human rights, and social security in 21<sup>st</sup> century. Australia's national security is to keep it's citizens safe and secure while protecting the borders around and preventing organized crimes (Gov.Aus, 2020). According to US president, their national security deals with the safety, interests, and well-being of citizens while maintaining the economy, military, borders and the sovereignty of the great nation (USA, 2017). Moreover, the Russian perspective of national security is the security of people as the bearer of sovereignty as

the only source of power (Russian Federation, 2016). Chinese President Xi Jinping emphasized a holistic approach to national security from human security as the most concerned while keeping political safety, economic security, military, cultural and social security while maintaining international security (Swaine, 2015). Even though national security and strategies have been defined and published by various countries, and authors have their doubts whether those strategies genuinely reflect on the documents released. Since the world is heading to a high competition around the globe, it was evident that nobody wants to publish their sensitive interests. Hence, any strategy published hiding their original intention, and the interests of a country would not reflect the real strategy at large. However, researchers observed the similarities among those definitions discussed above and considered the academic perspective of the same.

Since National Interests of Sri Lanka is not indicated in any of the leading literature related to the country, authors also look for a meaningful statement to be suited as the national interest of Sri Lanka. A book chapter (Lebow, 2020) discussed the nature of national security. It indicated that the most important aspects are the values and goals of a country, depending on what kind of country is expected. National interest and policies should address the test of being practical while politically feasible in the home country and potentially reasonable to success abroad. Therefore, Sri Lanka needs to decide what kind of country we need tomorrow for our people. One aspect is evident as we do not intend to dominate or conquer any other state in the future. Even though it is not appropriately defined, it is the democracy, sovereignty, and territorial integrity of the island while maintaining the ethnic harmony and security of the people by observing a non-align foreign policy. There may be some additions, but the essence would align with the same direction (Aryasinha, 2018).

## Literature Review

### A. A Holistic View of National Security

*Chinese Approach:* Chinese President Xi Jinping indicated the holistic view of national security in April 2014 at the National Security Commission of the China Communist Party (CPC).

Accordingly, ultimate human security will be ensured with political security as the overarching importance and economic security, which takes precedence over all other considerations to social, cultural, and military perspectives. It can reinforce actions in different areas and the interests of international security. Hence, the Chinese national security system was initiated with its characteristics as a holistic way to keep national interests.

Further to that, all possible initiatives were taken as a people-centered approach implemented for the people, getting the support of the public based on their needs (Swaine, 2015). Components of the Chinese holistic approach has even more considerations in depth. Their focus on internal and external security has no exception. Domestic concerns ranging from promoting development, creating a crime-free environment, reform as part of the five-year plans, and maintaining the stability of the country has prioritized. Analyzing external concerns, Chinese people always respect international peace, looking for win-win situations for mutual benefits, and promote world harmony at large.

Development issues and security does hand in hand with their approach. Development is the basis for security, while security provides conditions for growth. In that, the Chinese consider traditional and non-traditional issues at home. Political security, homeland security, including economic, social, cultural, and military aspects, should merge with information technology, science and technology, resources, ecological matters, and nuclear science. Finally, concerns of a strong military to defend the threats. However, the Chinese believe that a prosperous economy is key to the success of a strong military around the country.

### B. USA Approach

According to the latest national security strategy published in 2017, President Trump declared well-being, safety, and interests as the top priority. Further, elaborated revitalization of the American economy, border security, rebuilding the military, preserving peace through strength and sovereignty, to advance fellow citizens' values, including American influence in the world.

Further, the US likes to pursue the world with strong and independent nations, respecting their own cultures, values, and dreams, sharing prosperity, peace, and freedom. The USA also

follows “America First” foreign policy. Moreover, the same document indicated their approach to foreign policy and discussed the threats as well. Developing nuclear power in rouge nations, radical Islamic terror groups, the Middle East, and dealing with other rival powers were the main concerns of the White House (USA, 2017).

#### *C.UN Perspective of Global Security:*

United Nations Office for the Coordination of Humanitarian Affairs (OCHA) has illustrated a broader dimension about human security elements (UN, 2001). It has gone beyond military protection approaches and caters to threats on human dignity as well. Therefore, it is an essential move for states to make adequate efforts to cooperate with other nations to engage and adopt global security initiative directions indicated by OCHA. Further, OCHA has widened the definition of security under different areas of security initiatives as follows:

- a) Economy: New employment opportunities and measures against poverty
- b) Food: Eradicating hunger
- c) Health: Basic health care, preventing disease, malnutrition, unsafe food
- d) Environmental: Environmental degradation control, resource depletion, pollution, natural disasters
- e) Personal: Stopping of physical violence, domestic violence, crime, child labour, and terrorism
- f) Community: Religious, ethnic, and other community-related violence
- g) Political: Political repression prevention and human rights related abuses

#### *D.Indian Approach*

Scholars and experts discussed the absence of a formal National Security Strategy for a regional power such as India and its implications to not only the nation itself but the region as well. Campose (2016) claims that the frequent cross border terrorist attacks and the unrests in Jammu and Kashmir are the results of not having a proper laid down strategy for tackling the security issues posed by the external and internal parties. Following the landslide, victory of prime minister Modi in 2019, Kumar Singh, who is a prominent figure in Indian Defence Account Service (IDAS), urged that it is high time for India to publish its National Security Strategy. A

proposed doctrine by Delhi Policy Group entails the crucial elements such as stable political institutions, economic growth, social harmony, law and order machinery, expeditious judicial relief, and good governance in its national security strategy for India as their internal matters of concerns. Moreover, the doctrine emphasizes on calculating the external threats and tackling them through diplomacy and defence capability. The right to life, safety, and well-being of every Indian in conditions of internal and external peace set to be the supreme objective of a comprehensive national security strategy. Meanwhile, policymakers have identified perpetual border disputes on multiple fronts, Kashmir issues, and security issues related to the Indian Ocean Region (IOR) as key external challenges. Moreover, religious, cultural, and racial diversity, scarcity of resources, poverty, are some of the significant internal challenges for the India which needs to address through its national security strategy (DPG Report, 2016).

#### *E. Pakistani Approach:*

Since its inception, policymakers have not been able to draft a reliable and undisputed national security strategy for Pakistan (Khan, Jaspal and Yasmin, 2017). However, there have been various attempts to craft a comprehensive national security policy for the nation by perceiving both external and internal threats. Policymakers have observed several distinctive paradoxes, namely geo-strategic, global, regional, and national constraints. Khan et al. assert that Pakistan needs to revisit its relations with the military and political elites to formulate a comprehensive and consensus national security policy. The instability in Afghanistan, border disputes with both its eastern and western fronts with India and Iran respectively identified as external threats to Pakistan. In contrast, religious extremism, instability in the Baluchistan region, economic, political, and security issues related to the China Pakistan Economic Corridor (CPEC) perceived as internal challenges. However, in 2018 Pakistan laid the foundation for crafting its national security policy named National Internal Security Policy (NISP). The vital domains such as administrative/governance, ideational, socio-economic, and federal-provincial structured to mitigate the threats that are faced by Pakistan exclusively. NISP, 2018 therefore, in its broader sense, catered on implementing a holistic approach to confront the internal security issues

to create an environment for the state to mend the bridge with society for a secular, independent and peaceful Pakistan (NISP, 2018).

- F. *Singapore National Security Strategy*: The idea for a documented national security policy for Singapore conceived through the United States Homeland Security initiative on the post 9/11 era. The primary objective of the aforesaid national security policy was to confront transnational terrorism to ensure a secure environment for Singapore's economic aspirations in the region. Its internal security has a tremendous impact on economic activities, society, political stability, and country's progress (Yam, 2004).

A single institution does not govern Singapore's national security domain. Several departments vested upon the responsibilities. For instance, the Ministry of Defence tackles the external security threats in coordination with its armed forces. Homeland security is the responsibility of the police and the ministry of internal affairs. The national security policy, which focused on confronting transnational terrorism, advocated establishing systematized nexus of institutions in the government, that are jointly operating in coordination with the various layers of the society aiming at prevention, protection, and response upon any threat

G. *Global Peace Index (GPI)*

The Institute for Economics & Peace (IEP) is a non-profit and independent think tank research on global peace. 2109 report of IEP covers 99.7% of the world population with 163 sovereign states and territories measuring their level of peacefulness as an index becoming the world's leading measure of global peace. According to GPI 2019, most peaceful countries in the earth are Iceland, New Zealand, Portugal, Austria, and Denmark, while the average five countries Peru, Bosnia, Tunisia, Jamaica, and the Dominican Republic. Finally, the least peaceful countries are Afghanistan, Syria, South Sudan, Yemen, and Iraq (Peace and World, 2019).

## Methodology

At the outset, researchers derived ten critical components from the available literature. Considering the Chinese, Indian, Pakistan, Singapore, US, and UN approaches of national security, authors developed a framework to find the components for a comprehensive national security strategy. US and Chinese were selected to represent major power blocks while UN was taken as an independent body. India and Pakistan were selected as the regional powers while Singapore was selected due to its similar characteristics to Sri Lanka such as geographic location, open economy and cultural diversity. However, analysis is theoretical and needs customization depending on each country's interest and the present situation. Hence, researchers found ten critical components to include in a comprehensive national security strategy as a holistic approach. Those factors include; Human security, Sovereignty, Political Security, Economic security, Social security, Cultural security, Military security, International Peace, Homeland security, and Information technology. After that, researchers followed the 2019 GPI to find out the most, average, and least peaceful countries and to analyze above mentioned ten factors related to those positions of the index. Therefore, those fifteen countries were listed against the ten most essential elements of a comprehensive national security strategy or the holistic approach to national security at large. Finally, threat perception was taken into the consideration to select the most suitable aspects to form a holistic approach to national security of Sri Lanka. Table 1 below summarises the most peaceful countries in orange colour, average countries in blue, and the least peaceful countries in red colour.

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	Citizen security	Sovereignty	Political security	Economic security	Social security	Cultural security	Military security	International Peace	Homeland security	Information technology
Iceland	✓	✓	✓	✓	✓	✓	X	✓	✓	✓
New Zealand	✓	✓	✓	✓	✓	✓	✓	X	✓	✓
Portugal	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Austria	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Denmark	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Peru	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Bosnia	✓	X	✓	✓	✓	X	✓	X	✓	X
Tunisia	✓	✓	X	X	X	X	✓	X	✓	X
Jamaica	✓	X	✓	✓	✓	✓	✓	X	✓	X
Dominican Republic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Iraq	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	✓	Not Available	Not Available	Not Available
Yemen	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	✓	Not Available	Not Available	Not Available
South Sudan	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	✓	Not Available	Not Available	Not Available
Syria	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	✓	Not Available	Not Available	Not Available
Afghanistan	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	✓	Not Available	Not Available	Not Available

Table 1: Analysis of most, average and least, peaceful countries according to 2019 GPI  
 Source: Authors

### Analysis

According to the comparison in Table 1 above, it is evident that the most peaceful countries adopt almost every possible effort to integrate their national security initiatives. It is fascinating to note that the most peaceful country is without a military for their security. All the top countries considered having a holistic approach to national security, while average countries show moderate results. However, the states have the worst peace conditions in the index seems to have conflicts in their soils. Accordingly, researchers used the said components to develop a holistic approach for national security. However, to develop a holistic approach to the national security of Sri Lanka also needs the threat perception and the present situation of the country.

#### *Present Situation and Threat Perception of Sri Lanka*

Since independence Sri Lanka had various internal conflict situations from 1971 to date, a major crisis was the Liberation Tigers of Tamil Eelam (LTTE), which is still manipulating in the international arena. However, the continuation of the same organization activities in the political approach has threatened the sovereignty of the country. It was clearly illustrated the alleged human rights violations at the United Nations Human Rights Commission. Some scholars still believe that Sri Lanka is without any national security strategy, despite having several successive governments since independence (Ranasinghe, 2019). In contrast, researchers contentious prove the military victory against one of the world's ruthless terrorist organizations. Without a comprehensive national security strategy, that wouldn't have been a success. Therefore, it is essential to release a modified and updated



version of national security strategy. Pathfinder report is one of the latest documents compiled by an expert panel of the country. Their view on national security threats is divided into three broad categories; external threats are coming from geopolitics, threats that are emerging from internal causes, namely socio-political and ethnic-religious roots, and the modern threats generated from contemporary context such as globalization related threats. Figure1 below depicts the threat perception from that report.

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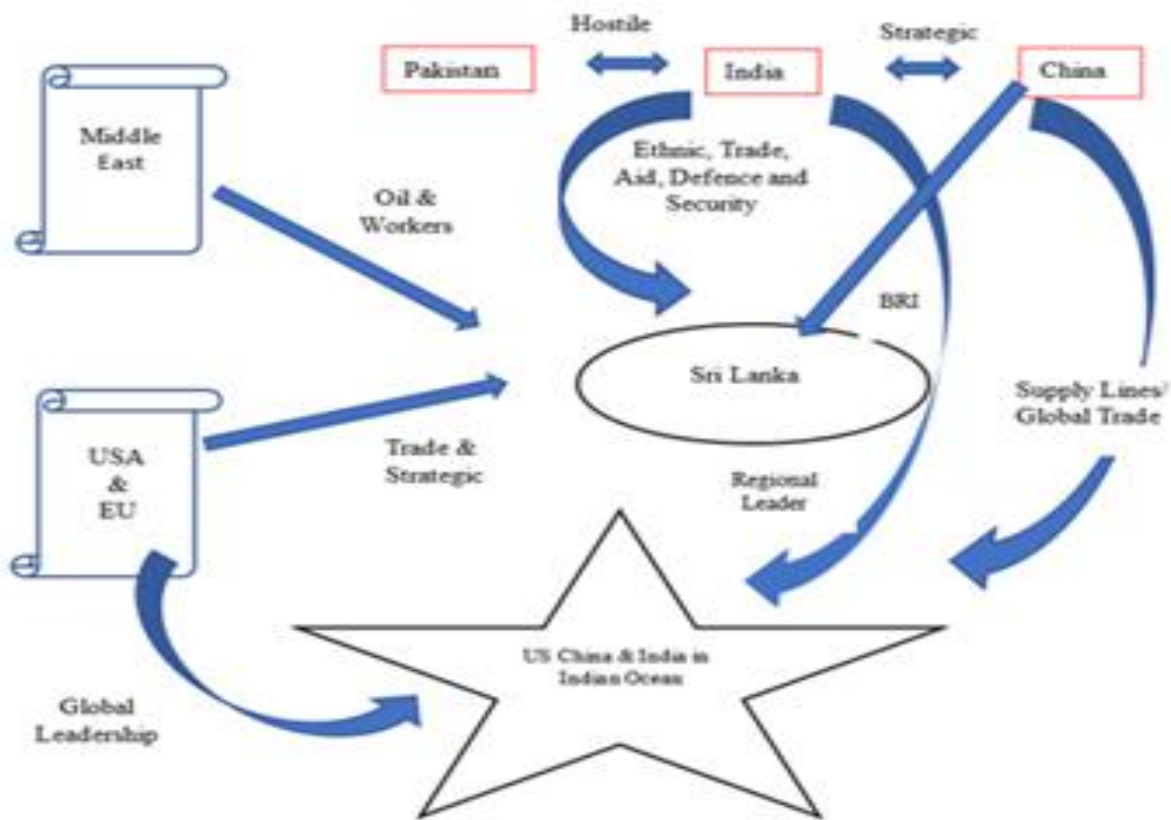


Figure 1: Threats to Sri Lanka National Security  
Source: Pathfinder National Security Strategy for Sri Lanka 2020

The latest incidents reported on 13 June 2020 are alarming the re-emergence of some fractions related to LTTE in the Jaffna peninsula. Coming on to present security concerns, like most of the other states, Sri Lanka also facing terrorism driven by religious fundamentalism, Muslim extremism, in particular, have become a significant threat (Amresh Gunasingham, 2020). Even though it is considered as Lone-wolf terrorism, it has become a complicated and debatable issue in the counter-terrorism paradigm today (Fadillah, 2020). Recent suicide attacks on 21 April 2019 is the best evidence to consider and look for future scenarios. Impact of post-COVID 19 pandemic to the country's economy had discussed by Sri Lankan scholars (Weerathunga and Samarathunga, 2020) suggested essential aspects as to how the economy should be secured. With the present threat to the country, Economic aspects also become a key concern today.

Another major global terrorism threat is the cybercrimes where Sri Lanka is not an exception. Apart from those threats, illegal immigrants, illegal fishing, arms trafficking, human trafficking, and drug trafficking takes precedence as threats to national security. Moreover, the Pathfinder Foundation indicated three types of threats to national security in Sri Lanka as geopolitical, internally generated threats due to the country's socio-political and religious environment, and contemporary historical threats (Goonetilleke et al, 2019). After looking at the threats to Sri Lanka, researchers listed most imminent threats to consider before deciding on a holistic approach to national security as Re-emergence of LTTE, LTTE diaspora and political threats, Muslim extremism as Lone-Wolf activities and beyond, Cyber Crimes, Illegal immigrants, Illegal fishing, Arms trafficking, Human trafficking, Drug trafficking. Accordingly, those threats have listed against the factors derived as the components of a comprehensive national security approach in table 2 below. At the same time, Figure 2 depicts

the summary of a holistic view of Sri Lankan National Security:

Threats	Components
Re-emergence of LTTE Muslim extremism	Military Security
Illegal immigrants Illegal fishing Arms trafficking Human trafficking Drug trafficking	Citizen Security Social Security Cultural Security Homeland Security
LTTE diaspora and political threats	Sovereignty
Cyber Crimes	Information technology Security
Post COVID 19 economic threats	Economic Security

Table 2: National Security Threats vs Components

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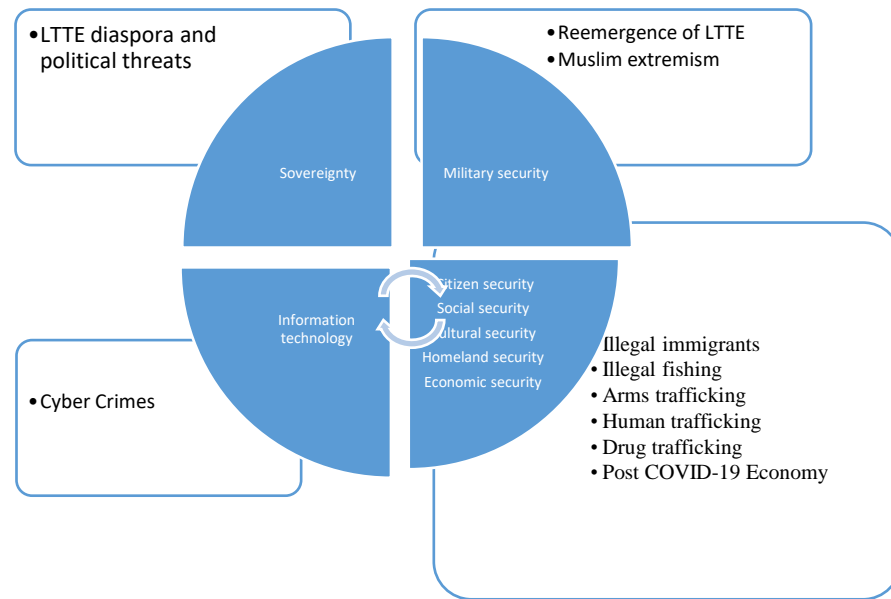


Figure 2: A Holistic View of National Security in Sri Lanka

Source: Authors

## Conclusion

Despite having much academic literature to prove that Sri Lanka does not have a national security strategy, authors brought out that Sri Lanka is well organized with a national security strategy that is not published due to the sensitivity of that information. A holistic view to national security was examined with Chinese, Indian, Pakistan, Singapore, US, and UN approaches and derived the components of comprehensive national security strategy as Human security, Sovereignty, Political Security, Economic security, Social security, Cultural security, Military security, International Peace, Homeland security and Information technology. Then the GPI was used to analyze those factors to validate and select the most suited elements to develop a holistic approach to national security. Threats to the national security of Sri Lanka also discussed, and those threats analyzed with the factors selected. Finally, most suited eight components were chosen from the analysis to include in the holistic approach to Sri Lanka national security as Military security, Citizen Security, Social security, Cultural security, Homeland security, Sovereignty, Economic security and Information technology security.

## Conflict of Interests

Authors do not have any conflict of interests pertaining to this piece of writing.

## References

- Ahmad Faruqui (2002) *Rethinking the National Security of Pakistan*. Routledge. doi: 10.4324/9781315194615-10.
- Amresh Gunasingham (2020) 'Countering violent extremism in Sri Lanka', in Rohan Gunaratna, S. H. (ed.) *Terrorist Deradicalisation in Global Contexts Success, Failure and Continuity*. Taylor & Francis eBooks.
- Aryasinha, R. (2018) 'Sri lanka foreign policy and economic diplomacy dialogue 2018', in *Contours of Sri Lanka's Foreign Policy*.
- Bernard Goonetilleke, Lalith Weeratunga, H.M.G.S. Palihakkara, Roshan Goonetilleke, Jayanath Colombage, Daya Ratnayake, Luxman Siriwardena, S. P. (2019) *Pathfinder National Security Strategy for Sri Lanka 2020*. Available at: <http://counterpoint.lk/for-sri-lanka-2020/>.
- Campose, P. (2016) 'India ' s National Security Strategy : Imperative of Integrating Defence Policy', pp. 15-32.



Fadillah, F. (2020) 'International Review of Humanities Studies IN IDEOLOGY : THERE IS NO LONE-WOLF TERRORISM International Review of Humanities Studies', 5(1), pp. 52–63.

Gov.Aus (2020) *National Security of Australia*. Available at: <https://www.pmc.gov.au/national-security> (Accessed: 15 June 2020).

Government, I. (2018) 'National Internal Security Policy'.

Khan, A. U., Jaspal, Z. N. and Yasmin, S. (2017) 'The National Security Policy Paradox in Pakistan: Strategic Constraints, Ramifications and Policy Recommendations The National Security Policy Paradox in Pakistan: Strategic Constraints, Ramifications and Policy Recommendations', (March).

Lebow, R. N. (2020) 'A Democratic Foreign Policy', in *A Democratic Foreign Policy*. Sprinher Nature Switzerland, pp. 173–211. doi: 10.4337/9781786430144.00007.

Peace, M. and World, I. N. A. C. (2019) 'GLOBAL'. Ranasinghe, K. (2019) *Importance of National Security Strategy*. Available at: <http://www.insssl.lk/preview.php?id=304>. Reports, D. P. G. C. (2016) 'Advancing India's Rise as a Leading Power DPG Conference Reports, Vol. 1, Issue 2', 1(2).

RussianFederation (2016) *Russian National Security Strategy, December 2015*. Russian Federation. Available at: <http://dx.doi.org/10.1016/j.bpobgyn.2016.10.013><https://doi.org/10.1016/j.solener.2019.02.027><https://www.golder.com/insights/block-caving-a-viable-alternative/><http://dx.doi.org/10.1016/j.hoc.2014.04.003><http://www.moh.gov.my/penerbitan/CPG>.

Swaine, M. D. (2015) 'Xi Jinping's Address to the Central Conference on Work Relating to Foreign Affairs: Assessing and Advancing Major Power Diplomacy with Chinese Characteristics', *China Leadership Monitor*, (46).

Tony Tan Keng Yam (2004) *Fight Against Terror Fight Against Terror*. Singapore.

UN (2001) 'Human Security in Theory and Practice: Application of the Human Security

Concept and the United Nations Trust Fund for Human Security', pp. 1–79.

USA (2017) 'National Security Strategy of the United States of America, 2006, 2015', *Foundations of Homeland Security: Law and Policy: Second Edition*, pp. 175–180. doi: 10.1002/9781119289142.ch9.

Weerathunga, P. and Samarathunga, W. (2020) 'Are We Ready for An Economic Meltdown? The Impact of COVID19 on Sri Lanka Economy', *SageAdvance (Preprint)*, pp. 1–10. doi: <https://doi.org/10.31124/advance.12230765.v1>.

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