

WHAT ARE THE PAST, PRESENT AND FUTURE CHALLENGES TO SINGAPORE'S NATIONAL SECURITY?

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ABSTRACT

In the essay, the author discusses Singapore's operating environment and examines how her national security strategies have adapted to challenges to stay relevant and effective in defending her national interests. He briefly outlines Singapore's national interests, based on her geography and history. He then frames her national security strategies with a Grand Strategy framework of Defence and Security, Nation Building, and National Development, to crystallise the discussion and explore pertinent challenges from independence, to the future. The author feels that while Singapore's national interests remain constant, the proposed national security strategies can still be used to frame and respond to challenges in new operating environments.

Keywords: *National Security, National Interests, Co-operation, Cohesion, Identity*

DEFINING NATIONAL SECURITY

National Security, 'in an objective sense, measures the absence of threats to acquired values; in a subjective sense, it measures the absence of fear that such values will be attacked.'¹ It is part of government policy formulation to create 'national and international political conditions favourable to the protection or extension of vital national interests against existing and potential adversaries.'² Hence, a challenge to National Security can be viewed as 'an action or sequence of events that threatens... to degrade the quality of life for the inhabitants of the state, or threatens significantly to narrow the range of policy choices available.'³

In this essay, the author discusses Singapore's operating environment and examines how her national security strategies have adapted to challenges to stay relevant and effective in defending her national interests.

SINGAPORE'S REALITY

Singapore's sense of place and threat perception is influenced largely by her geography and history.⁴ Singapore's key National Interests are those that would allow her to overcome inherent vulnerabilities due to geographical and historical factors.

Colin Gray argued that while geography does not necessarily determine the course of history, 'it conditions, shapes and influences the course of a

polity's historical choices... [It] imposes distinctive constraints and provide distinctive opportunities that have profound implications for policy and strategy.'⁵ Geography as a setting, influences the script. But a country's destiny is ultimately in the hands of the governing elite.

Singapore's geography has been a source of pride, envy and concern. It is strategically positioned along major trade routes flowing from the East to the West via The Straits of Malacca and the South China Sea, and must actively promote freedom of navigation along these vital sea lanes.⁶ It is without natural resources (except human resource) or a hinterland, so it has to reach out and cultivate her position in the global arena.⁷ Militarily, it is a point-target—unable to conduct an effective defence in depth against any surprise attack.⁸

Historically, the Singapore story has been a narrative of survival and success against the odds of communist insurgency, communal tension and sudden independence in a volatile region.⁹ Singapore had to move fast in 'getting the basics right' to ensure the survival of a small nation of disparate people without a common heritage, re-energise the economy, build up a self-defence capability in the throes of British withdrawal, and cultivate diplomatic clout regionally and internationally to win recognition for her independent status.¹⁰ Today, her infrastructure and



Accompanying Sea Security Team (ASSeT) from the Republic of Singapore Navy (RSN) team operators climbing up a Jacob's ladder rigged to the Boarding and Search Trainer in Pulau Brani on 19th Apr, 2018.

activities bustle with a population of about 5.61 million people, boasting healthy trade and income indicators, all compacted into an area roughly 719km².¹¹ The Singapore story is thus a story of grit in the pursuit of political independence, economic wellbeing, and survival.

SINGAPORE'S NATIONAL INTERESTS

What George and Keohane wrote about 'three irreducibles' to National Interests, namely physical survival, economic welfare, and sovereign liberty is not too far from the Singapore experience.¹²

Inferring from the elaboration into Singapore's geographical and historical influences on policy choices, the author argues that the 'three irreducible' National Interests in the Singapore context can be explained as follows. 'Physical survival' is the need for a self-defence capability against external aggression despite the apparent disadvantage in territorial depth and manpower resource, and cohesion against internal strife in a non-homogenous society. 'Economic well-being' is the need for a strong economy that can weather any storm to provide for her inhabitants, despite not having a hinterland or natural resources. 'Sovereign liberty' is

the need for the right to determine her own future, free from political coercion despite her small geographical size.

NATIONAL SECURITY – TOWARDS A GRAND STRATEGY TO SECURE NATIONAL INTERESTS

Grand Strategy is the 'capacity of a nation's leaders to bring together all the elements, both military and non-military, for the preservation and enhancement of the nation's long-term (that is, in wartime and peacetime) best interests.'¹³ Grand Strategy is a policy decision-making architecture to ensure 'all the elements' of national power and resources are focused to protect the national interests. Or, in other words, to ensure national security. It presents a coherent and consistent framework to give purpose and direction, so that events occurring inside or outside of the nation can be interpreted and responded to.¹⁴

In this light, the author proposes that Singapore's Grand Strategy for National Security lies within the following three categories: Security and Defence (for survival as a sovereign nation), Nation-Building (for

identity and social cohesion), and National Development (for modernisation and economic development). As then-Minister Mentor Lee Kuan Yew said, "You cannot have a strong defence unless you have a strong finance. And you cannot have strong defence and strong finance unless you have a strong unified, well-educated and increasingly cohesive society. They are all part of one whole."¹⁵

SECURITY AND DEFENCE — DIPLOMATIC SPACE AND A 'BIG STICK'

"Friendship in international relations is not a function of goodwill or personal affection."

- Then-Minister Mentor Lee Kuan Yew, 2009¹⁶

Singapore's geography comes to the fore. Singapore's lack of geographical size and hinterland gave the early leaders no choice but to engage with the rest of the world in order to stay relevant and independent as a nation.¹⁷ Small countries must create that 'diplomatic space' to 'project itself' and 'shape other countries' perceptions of its relevance and usefulness.¹⁸ Singapore had to remain 'relevant so that other countries have an interest in [her] continued survival and prosperity as a sovereign and independent nation.'¹⁹

However, this did not mean that Singapore should bow to the whims and fancy of bigger powers, especially so in the Cold War era surrounding independence. On the contrary, small states like Singapore had to stand by the rule of international law to safe guard her sovereignty and interests, and constantly seek third party arbitration in disputes.²⁰ Small states can never match up to the might of bigger states if interaction was governed by relative power instead of law.²¹ Small countries must also cultivate relationships and establish ties to assure co-operation, mutual benefit and a bigger presence to engage further out in the world.²²

In this sense, Singapore's security as an independent nation is dependent on cultivating diplomatic ties with international partners. But as then-Brigadier General Lee Hsien Loong aptly described, 'diplomacy is no substitute for strength.'²³ A strong and credible deterrent force, in the form of the Singapore

Armed Forces (SAF), is the 'Big Stick' to support and protect her diplomatic space.²⁴ The SAF functions on the twin pillars of Deterrence and Diplomacy. It has undergone gradual improvements to be a premier defence force with global clout, able to conduct operations for war, humanitarian assistance and peacetime contingencies.²⁵ At the same time, the SAF engages in defence diplomacy to foster ties, build confidence, and enhance interoperability should the need arise.²⁶

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Lee Kuan Yew and his wife Kwa Geok Choo with US President Ronald Reagan and his wife Nancy Reagan on 8th October, 1985 at the White House.

NATION BUILDING – BUILDING RACIAL AND RELIGIOUS HARMONY

The need for social cohesion was borne out of communal strife along religious, racial and political lines.²⁷ Singapore has demonstrated political resolve and social commitment through a tripartite of 'state-community-religious sector relationship,' to ensure communal tensions of yester-years do not reoccur and disintegrate the nation from within.²⁸ The government follows three principles to ensure harmony.²⁹ First, through multiculturalism where the diverse cultural heritage is recognised, but a common national identity takes precedence. Second, through state secularism where the state does not act against any religion, and everyone has the right to practise their faith freely. Third, through meritocracy where opportunities to succeed are without bias to any racial background.

State apparatus such as the Maintenance of Religious Harmony Act introduced in 1990, statutory boards like the People's Association established in 1960, the Inter Racial and Religious Confidence Circle (IRCC) initiative in 2007, and even recognising Racial Harmony Day on 21st July each year to remember the bloody race riots in 1964, are some examples of the government's commitment to ensure harmony.³⁰

The social compact of living in harmony is evident in many facets of Singaporean life. English was chosen as the language of commerce to give everyone an equal footing.³¹ One notable example is how the public housing projects of the Housing Development Board (HDB) feature common spaces (i.e., playgrounds, parks, fitness corners) for interaction, and administers an Ethnic Integration Policy (EIP) to ensure a balanced proportion of ethnic groups to further promote racial integration.³² National Service is also key to racial integration through the 'breaking-down of language, racial, and class barriers... [to] develop common ideas and beliefs, as well as a common identity and loyalty to the nation.'³³ A sentiment echoed much earlier by then-Minister for Interior and Defence, Dr Goh Keng Swee, when he highlighted the 'nation building aspect of defence' with participation from 'all strata of society.'³⁴

NATIONAL DEVELOPMENT – MODERNISATION AND WELFARE

"So, how do you have a strong economy? By maximising your human resources. Your people, the way they are trained, organised, educated to serve the world's needs, which means infrastructure, connections, linkages with those parts of the world which will add value to our lives."

- Then-Minister Mentor Lee Kuan Yew, 2011³⁵

Around the time of independence, Singapore was plagued by the impending British withdrawal and the communist threat. Losing the British meant losing the status, benefits and resources of being the hub of British Empire in South East Asia.³⁶ The British military expenditure at the time accounted for almost 20% of the Gross Domestic Product (GDP), and up to 70,000 jobs.³⁷ A few years prior to independence, the early leaders knew that Singapore's entrepôt trade was stagnating and on a decline—industrialisation was the key to modernisation and growth.³⁸ The early leaders also saw the communist problem as an economic one, where economic growth would stifle support for subversion or revolution.³⁹ The government's strategy to focus on growth was to build internal confidence, and also to have the resources to tackle social problems.⁴⁰

Then-Minister for Foreign Affairs, Mr Sinnathamby Rajaratnam aptly described Singapore's vision as a 'global city' to circumvent her small-ness by making the world her hinterland.⁴¹ While others were shying away from foreign investors in the 1960s, Singapore gained an economic edge by bringing in Multinational Corporations (MNC) to develop her economy into an export-led industry.⁴² English was adopted as the language of commerce to engage the world effectively.⁴³ Over time, Singapore's global approach cemented its place as a maritime and aviation hub for the region and the world.⁴⁴

Maintaining a robust economy also demands prudent fiscal spending. The government had always adopted the 'poor man's mentality in a rich man's reality.'⁴⁵ Till today, spending is prioritised to ensure each generation pays off itself, with the remainder saved for the future. Singapore's connection to the

world exposes it to the ups and downs of the global economy.⁴⁶ The economy must remain robust by minimising or avoiding government borrowing, and keep a healthy national reserve for a rainy day. One such 'rainy day' was the financial crisis of 2007/2008, when the national reserves were drawn to keep the economy buoyant.⁴⁷ This prudence was also evident in the 2018 Budget request for an increase in government taxes in 2021-2025 to support greater spending beyond 2020 in areas such as elderly healthcare, security, and infrastructure.⁴⁸

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NATIONAL SECURITY FOR THE FUTURE

In Prime Minister (PM) Lee Hsien Loong's address to the 8th S. Rajaratnam Lecture, he shared that Singapore's national interests had not changed since independence in 1965:

"[W]e have to be clear what our fundamental interests are and these have not changed in 50 years – have peace in the world, to have an international order where countries respect and abide by international law; to establish a network of friends and allies whom we can work with; to have a stable and secure Asia-Pacific region, especially Southeast Asia; and ultimately, to preserve our sovereignty, and our right to determine our future."

- Prime Minister Lee Hsien Loong, 2015⁴⁹

Thus far, the Grand Strategy to ensure Singapore's survival has been contextualised to the operating environment since independence—circumventing our apparent small-ness by carving out a diplomatic space under the rule of international law, building self-defence capabilities, relying on global trade to build a resilient economy, and social cohesion of diverse cultures. While the national interests remain

constant, the national security strategies must move with the times. The author feels that the proposed National Security Strategies can still adapt to frame future challenges.

Taking reference from interviews and government statements, the concerns today and the future focus on long-term national identity, ageing population and declining birth rates, keeping the economy competitive in Industry 4.0, and security against new threats like terrorism and cyber attacks.⁵⁰

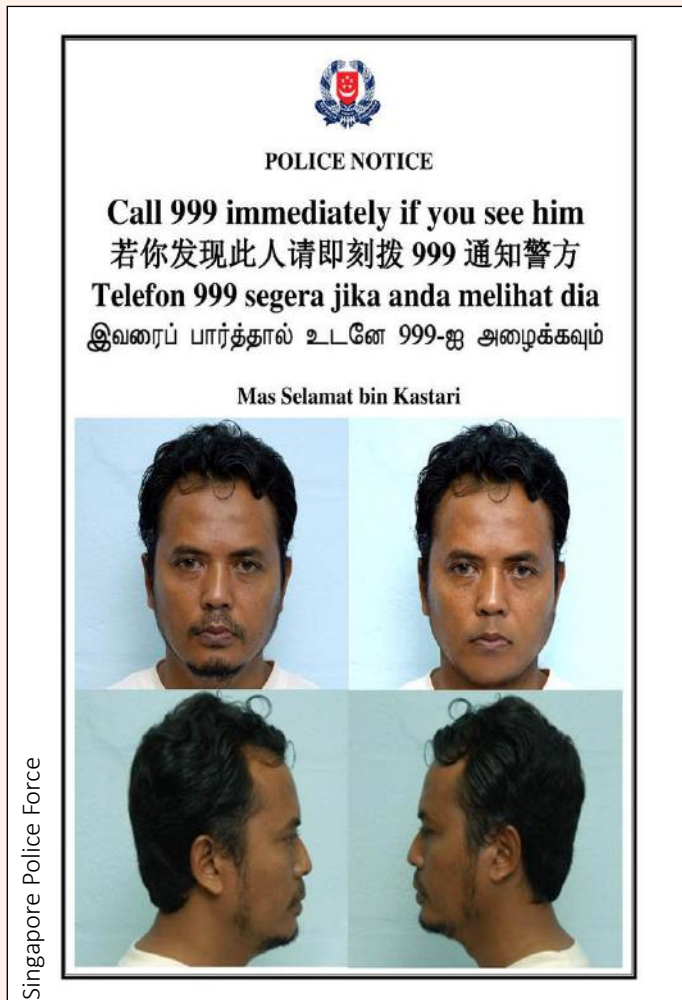
DEFENCE AND SECURITY – VICTIMS OF OWN SUCCESS & ELUSIVE ENEMIES

Singapore has generally enjoyed good years of peace and prosperity, brought about by sound diplomatic principles, healthy trade and fiscal policies, a strong SAF, and a vigilant Home Team. The lasting peace has given certain opposition parties the opportunity to attack the government's high spending on defence, compared to other sectors like healthcare.⁵¹ There is also the need to reinforce the Singapore defence narrative, especially amongst the Generation 'Y' who are more curious and worldly, but have never experienced the Japanese occupation, or communist insurgency and 'Konfrontasi'.⁵²

However, with increased threat of non-attributable cyber attacks and terrorism, the government has to manage a wider defence narrative. Most notable were the Jemaah Islamiyah's (JI) bomb plot against foreign embassies and personnel in 2001/2002, the Messiah Cyber attack in 2013, the Ministry of Defence data breach in 2017, and the plot to launch rockets attacks at Marina Bay Sands, Singapore from Batam in 2017.

Although Singapore has developed cyber-defence capabilities such as the Defence Cyber Organisation and the Cyber Security Agency of Singapore, it must keep up with an enemy which is using increasingly sophisticated means to harvest data or launch crippling attacks.⁵³

Equally challenging is the trans-national nature of terrorism, and the online spread of its ideologies.⁵⁴ Most worrisome is the return of Islamic State fighters, of Southeast Asian origins, back home.⁵⁵ The



A wanted poster of Mas Selamat Kastari, member of the JI, detained under Internal Security Act (ISA) indefinitely for involvement in plot to bomb Singapore Changi Airport in 2002.

government must continue to groom psychological readiness through active promotion of the SG secure movement, and the narrative of 'not if, but when'.⁵⁶

NATION BUILDING — SOCIAL RESILIENCE & SINGAPORE IDENTITY

The ageing population and declining birth rate has compelled Singapore to reach out to immigrants to support the work force and the economy.⁵⁷ This has generated about 1.64 million non-residents, amounting to almost 30% of the total population.⁵⁸

Where Nation Building previously focused on integration along ethnic identities, immigrants who have not gone through Singapore's national education face the challenge of retaining their heritage or ascribing to the existing racial framework.⁵⁹ The influx of immigrants also presents the challenge of social integration under the perceived unfair competition in jobs, housing and social services.⁶⁰ Immigrants, frowned upon by

antagonised Singaporeans, feel they are being 'tolerated rather than welcomed'.⁶¹ The crowding-out effect, infrastructure strain, perceived disparity in opportunities, and the sudden increase in diversity could dilute the sense of identity amongst Singaporeans.⁶² While the government has responded to the tension, such as establishing the National Integration Council to help New Citizens integrate effectively, and foreign labour controls, this rift represents a potential flashpoint as long as Singapore remains dependent on immigration to keep its population stable. Such fissures could be exploited by hostile agents to disintegrate social order, especially with the recent concern over fake news that could build distrust between communities.⁶³

Speaking at the Ho Rih Hwa Leadership in Asia Public Lecture, PM Lee Hsien Loong said that identity was something to be built from shared experiences.⁶⁴ Just like how the disparate ethnicities built a Singaporean identity by overcoming the challenges of independence in the first 50 years, crises in the coming years would build a new Singaporean identity. What matters is strong leadership committed to the betterment of Singapore as a nation, to galvanise the population through difficult times, and deepen what it means to be Singaporean.⁶⁵

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NATIONAL DEVELOPMENT — STAYING COMPETITIVE

Arguably, the ageing population has created the problem of a shrinking workforce and also the increase in healthcare expenditure and other social services.⁶⁶ Unlike the baby-boom generation of post-World War II (WWII), this situation is unique to this and the future generations of Singaporeans. Taking into account the anxieties of immigrant influx amongst Singaporeans, the

government has looked into ways to boost productivity instead.⁶⁷

The 2018 Budget Address pointed out the need to increase taxes between 2020-2025 to build more hospitals, enhance healthcare facilities and subsidies.⁶⁸ However, this is only a stopgap measure. The Smart Nation movement seeks to tap into Industry 4.0 to boost productivity and economic competitiveness.⁶⁹ Industry 4.0 addresses the workforce crunch by replacing manual labour with automation and predictive data analytics, boosting productivity by as much as 30% in 2024.⁷⁰ The Economic Development Board (EDB) has taken the lead to develop a Singapore Smart Industry Readiness Index to help overcome initial barriers of transformation through consultation and assessments.⁷¹ However, the systems are vulnerable to cyber attacks, and cyber security must be placed in top priority to ensure business survivability and continuation.⁷²

CONCLUSION

The author has briefly outlined Singapore's national interests based on her geography and history. He has also framed her national security strategies with a Grand Strategy framework of Defence and Security, Nation Building, and National Development, to crystallise the discussion and explore pertinent challenges from independence, to the future. While her National Interests remain constant, the proposed national security strategies can still be used to frame and respond to challenges in new operating environments. What does it say about Singapore? While the times may change, the spirit to overcome her smallness, by magnifying her diversity and dynamism to make an impact in the world, will always be Singapore's guiding light—like a pebble creating ripples to make its presence felt.

BIBLIOGRAPHY

Ang, C. G. (2016). Singapore's Conception of Security. In B. Desker, & C. G. Ang, *Perspectives on The Security of Singapore* (pp. 3-19). Singapore: World Scientific Publishing Co. Pte. Ltd.

CEA. (2018, Mar 26). *Singapore EDB funds 300 companies to assess Industry 4.0 readiness*. Retrieved from Control Engineer Asia: <https://www.ceasiamag.com/2018/03/singapore-edb-funds-300-companies-asess-industry-4-0-readiness/>

CENS. (2012). Centre of Excellence for National Security (CENS) Workshop: Visiting the Immigration Issue in Singapore. *Centre of Excellence for National Security, S. Rajaratnam School of International Studies*. Singapore.

CNA. (2015, Jul 23). *Three biggest challenges Singapore will face up to SG100: Lee Hsien Loong*. Retrieved from Channel News Asia (CNA): <https://www.channelnewsasia.com/news/singapore/three-biggest-challenges-singapore-will-face-up-to-sg100-lee-hsi-8238336>

Department of Statistics Singapore. (2018). *Latest Key Indicators*. Retrieved from Department of Statistics Singapore: <https://www.singstat.gov.sg/>

EDB. (2017, May 10). *Tackling challenges in integrating Industry 4.0 into manufacturing operations*. Retrieved from Economic Development Board Singapore: <https://www.edb.gov.sg/en/news-and-resources/insights/manufacturing/tackling-challenges-in-integrating-industry-4-0-into-manufacturi.html>

Foster, G. D. (1985). Missing and Wanted: A U.S. Grand Strategy. *Strategic Review*, Vol. 13, 13-23.

Future Economy. (2016, Apr 7). *Industry 4.0 and Singapore manufacturing*. Retrieved from Future Economy Council: <https://www.gov.sg/microsites/future-economy/press-room/news/content/industry-4-0-and-singapore-manufacturing>

George, A. L., & Keohane, R. (1980). The Concept of National Interest: Uses and Limitations. In A. L. George, *Presidential Decisionmaking in Foreign Policy: The Effective Use of Information and Advice* (pp. 217 - 237). Boulder: Westview Press.

Gertz, B. (2017, Nov 16). *NSA: Cyber Attacks Are Becoming More Sophisticated, Aggressive, and Disruptive*. Retrieved from The Washington Free Beacon: <http://freebeacon.com/national-security/nsa-cyber-attacks-becoming-sophisticated-aggressive-disruptive/>

Goh, K. S. (1967, Mar 13). *Speech by the Minister of Defence, Dr Goh Keng Swee, In Moving the Second Reading of the National Service (Amendment) Bill in the Singapore Parliament*. Retrieved from National Archives of Singapore - Speeches and Press Releases: <http://www.nas.gov.sg/archivesonline/speeches/record-details/79b11d3f-115d-11e3-83d5-0050568939ad>

Gray, C. (1996). The Continued Primacy of Geography. *Orbis*, Vol 40, Issue 2, 247-259.

Han, F. K., Ibrahim, Z., Chua, M., Lim, L., Low, I., Lin, R., & Chan, R. (2011). *Lee Kuan Yew: Hard Truths to Keep Singapore Going*. Singapore: Straits Times Press.

Heng, S. K. (2018, Feb 19). *Budget Speech*. Retrieved from Budget 2018: http://www.singaporebudget.gov.sg/budget_2018/BudgetSpeech

Heng, Y. K. (2012, Feb 6). Rajaratnam's Global City Vision for Singapore Vindicated 40 years on. *The Straits Times*, p. A17.

Huxley, T. (2000). *Defending the Lion City*. Allen & Unwin.

Jayakumar, S. (2011). *On Diplomacy: A Singapore Experience*. Singapore: Straits Times Press.

Kennedy, P. (1991). *Grand Strategies in War and Peace*. New Haven, CT: Yale University Press.

Lee, H. L. (1984, Oct 16). Security Operations for Small States, Speech by Political Secretary (Defence), Brigadier General Lee Hsien Loong. *Singapore Institute of International Affairs*.

Lee, H. L. (2010, Jan 26). *Address by Prime Minister Lee Hsien Loong at the Gala Dinner for the International Housing Conference*. Retrieved from Prime Minister's Office Singapore: <http://www.pmo.gov.sg/newsroom/address-prime-minister-lee-hsien-loong-gala-dinner-international-housing-conference>

- Lee, H. L. (2015, Nov 27). *Address to the 8th S. Rajaratnam Lecture*. Retrieved from Prime Minister's Office Singapore: <http://www.pmo.gov.sg/newsroom/pm-lee-hsien-loong-8th-s-rajaratnam-lecture-27-november-2015>
- Lee, H. L. (2015, Jun 30). *Ho Rih Hwa Leadership in Asia Public Lecture Series*. Retrieved from Prime Minister's Office: <http://www.pmo.gov.sg/newsroom/pm-lee-hsien-loong-ho-rih-hwa-leadership-asia-public-lecture-series>
- Lee, H. L. (2016, Aug 21). *National Day Rally 2016*. Retrieved from Prime Minister's Office Singapore: <http://www.pmo.gov.sg/national-day-rally-2016>
- Lee, K. Y. (1998). *The Singapore Story*. Singapore: Times Edition Pte Ltd.
- Lee, K. Y. (2000). *From Third World to First*. Singapore : Times Media Pte Ltd.
- Lee, K. Y. (2009, April 9). *The Fundamentals of Singapore's Foreign Policy: Then and Now*. Retrieved from Prime Minister's Office: <http://www.pmo.gov.sg/newsroom/speech-mr-lee-kuan-yew-minister-mentor-s-rajaratnam-lecture-09-april-2009-530-pm-shangri>
- Lee, M., & Yeo, S. J. (2015, Sep 3). *Vivian and Chee trade barbs over SDP policy ideas*. Retrieved from The Straits Times: <http://www.straitstimes.com/politics/vivian-and-chee-trade-barbs-over-sdp-policy-ideas>
- Lim, K. (2017, Sep 27). *'Still some way to go' for terror preparedness among Singaporeans: Shanmugam*. Retrieved from Channel News Asia: <https://www.channelnewsasia.com/news/singapore/still-some-way-to-go-for-terror-preparedness-among-singaporeans-9256530>
- Lim, S. G. (2015, Jan 15). *In Search of Purpose 2015: An Evening with Lim Siong Guan*. Retrieved from Central Singapore Community Development Council: <https://www.cdc.org.sg/centralsingapore/resources/in-search-of-purpose-talks>
- Lim, Y. L. (2016, Mar 29). *Four key challenges for Singapore in next 50 years*. Retrieved from The Straits Times: <http://www.straitstimes.com/singapore/four-key-challenges-for-singapore-in-next-50-years>
- Menon, R. (2015, Aug 5). *"An Economic History of Singapore: 1965-2065*" - Keynote Address by Mr Ravi Menon, Managing Director, Monetary Authority of Singapore, at the Singapore Economic Review Conference 2015*. Retrieved from Monetary Authority of Singapore: <http://www.mas.gov.sg/News-and-Publications/Speeches-and-Monetary-Policy-Statements/Speeches/2015/An-Economic-History-of-Singapore.aspx>
- MINDEF (3G SAF). (n.d.). *3G SAF: Transforming the SAF*. Retrieved from Ministry of Defence (MINDEF) Singapore: <https://www.mindef.gov.sg/web/portal/mindef/defence-matters/defence-topic/defence-topic-detail/3g-saf>
- MINDEF (Defence Policy). (n.d.). *Defence Policy & Diplomacy*. Retrieved from Ministry of Defence (MINDEF) Singapore: <https://www.mindef.gov.sg/web/portal/mindef/defence-matters/defence-topic/defence-topic-detail/defence-policy-and-diplomacy>
- Mohammad, A. M., & Mohamed, I. M. (2016). *Managing Religious Diversity in Singapore: Context and Challenges*. In B. Desker, & C. G. Ang, *Perspectives on The Security of Singapore* (pp. 253-276). Singapore: World Scientific Publishing Co. Pte. Ltd.
- Ng, D. (2018, Mar 9). *Why fake news is getting harder to spot (and the impact it could have)*. Retrieved from Channel News Asia: <https://www.channelnewsasia.com/news/cnainsider/fake-news-getting-harder-to-spot-singapore-select-committee-10027310>
- Ong, W. (2011). *Peripheral to Norm? The Expeditionary Role of the Third Generation Singapore Armed Forces*. *Defence Studies*, Vol. 11, No. 3, (September 2011), pp. 541-558 .
- Ong, W. (2011). *The Need for Engagement in Singapore's Defence Policies*. *S. Rajaratnam School of International Studies (RSIS) Commentaries*, No. 60/2011.
- Parameswaran, P. (2015, Jul 2). *Can Singapore Overcome its Future Challenges?* Retrieved from The Diplomat: <https://thediplomat.com/2015/07/can-singapore-overcome-its-future-challenges/>
- Png, P.-S. (1976). *Racial Integration and Nation-Building in Singapore*. *Philippine Sociological Review*, Vol. 24, No. 1/4, *The Chinese in ASEAN Countries: Changing Roles and Expectations* (Jan-Oct 1976), pp. 73-79.
- PSD. (n.d.). *Cultivating a Harmonious Society: Becoming One People*. Retrieved from Public Service Division: <https://www.psd.gov.sg/heartofpublicservice/our-institutions/cultivating-a-harmonious-society-becoming-one-people/>

Rajaratnam, S. (1972, Feb 6). *Singapore: Global City (Text of address by Minister for Foreign Affairs S Rajaratnam to the Singapore Press Club*. Retrieved from National Archives of Singapore - Speeches and Press Releases: <http://www.nas.gov.sg/archivesonline/speeches/record-details/fd2918de-3270-11e4-859c-0050568939ad>

Shanmugaratnam, T. (2009, Jan 22). *Budget Speech 2009*. Retrieved from Singapore Budget 2009: http://www.singaporebudget.gov.sg/budget_2009/speech_ph/ph.html

Singh, B. (2017, Jul 17). *Southeast Asia Braces for the Post-Islamic State Era*. Retrieved from The Diplomat: <https://thediplomat.com/2017/07/southeast-asia-braces-for-the-post-islamic-state-era/>

Tan, E. (2017, Sep 29). *Quality immigration will remain Singapore's lifeblood*. Retrieved from Today: <https://www.todayonline.com/singapore/quality-immigration-will-remain-singapores-lifeblood>

Tan, S. S. (2016). Singapore and Global Governance: Free-Rider or Responsible Stakeholder? In B. Desker, & C. G. Ang, *Perspectives on the Security of Singapore* (pp. 65-86). Singapore: Mainland Press Pte. Ltd.

Teo, J. (2017, Mar 8). *Speech by Senior MOS Josephine Teo for MOT at the Committee of Supply Debate*. Retrieved from Budget 2017: <https://www.gov.sg/microsites/budget2017/press-room/news/content/speech-by-senior-mos-josephine-teo-for-mot-at-the-committee-of-supply-debate>

Today. (2018, Apr 15). *The Big Read: Are S'poreans anti-foreigner? Not in the real world*. Retrieved from Today Online: <https://www.todayonline.com/singapore/big-read-are-singaporeans-anti-foreigner-not-in-real-world-0>

Trager, F. N., & Simonie, F. L. (1973). An Introduction to the National Security. In F. N. Trager, & P. S. Kronenberg, *National Security and American Society; Theory, Process and Policy* (pp. 35-48). University Press of Kansas.

Ullman, R. H. (1983). Redefining Security. *International Security*, Vol 8, No. 1 (Summer 1983): 129-153.

Waslo, R., Lewis, T., Hajj, R., & Carton, R. (2017). *Industry 4.0 and cybersecurity: Managing Risk in an Age of Connected Production*. Deloitte University Press. Retrieved from Deloitte University Press.

Wolfers, A. (1952). "National Security" as an Ambiguous Symbol. *Political Science Quarterly*, Vol. 67, No. 4. (Dec., 1952), pp. 481-502.

Wright, R. (2017, Jun 5). *How Different — and Dangerous — is Terrorism Today?* Retrieved from The New Yorker: <https://www.newyorker.com/news/news-desk/how-different-and-dangerous-is-terrorism-today>

Yeoh, B., & Lin, W. (2012, Apr 3). *Rapid Growth in Singapore's Immigrant Population Brings Policy Challenges*. Retrieved from Migration Policy Institute: <https://www.migrationpolicy.org/article/rapid-growth-singapores-immigrant-population-brings-policy-challenges>

ENDNOTES

1. Wolfers, A. (1952). "National Security" as an Ambiguous Symbol. *Political Science Quarterly*, Vol. 67, No. 4. (Dec., 1952), pp. 481-502.
2. Trager, F. N., & Simonie, F. L. (1973). An Introduction to the National Security. In F. N. Trager, & P. S. Kronenberg, *National Security and American Society; Theory, Process and Policy* (pp. 35-48). University Press of Kansas.
3. Ullman, R. H. (1983). Redefining Security. *International Security*, Vol 8, No. 1 (Summer 1983): 129-153.
4. Ong, W. (2011). Peripheral to Norm? The Expeditionary Role of the Third Generation Singapore Armed Forces. *Defence Studies*, Vol. 11, No. 3, (September 2011), pp. 543 .
5. Gray, C. (1996). The Continued Primacy of Geography. *Orbis*, Vol 40, Issue 2, 248.
6. Lee, H. L. (2016, Aug 21). *National Day Rally 2016*. Retrieved from Prime Minister's Office Singapore: <http://www.pmo.gov.sg/national-day-rally-2016>
7. Tan, S. S. (2016). Singapore and Global Governance: Free-Rider or Responsible Stakeholder? In B. Desker, & C. G. Ang, *Perspectives on the Security of Singapore* (pp. 65-86). Singapore: Mainland Press Pte. Ltd.
8. Huxley, T. (2000). *Defending the Lion City*. Allen & Unwin.
9. Lee, K. Y. (1998). *The Singapore Story*. Singapore: Times Edition Pte Ltd.

10. Lee, K. Y. (2000). *From Third World to First*. Singapore : Times Media Pte Ltd.
11. Department of Statistics Singapore. (2018). *Latest Key Indicators*. Retrieved from Department of Statistics Singapore: <https://www.singstat.gov.sg/>
12. George, A. L., & Keohane, R. (1980). The Concept of National Interest: Uses and Limitations. In A. L. George, *Presidential Decisionmaking in Foreign Policy: The Effective Use of Information and Advice* (pp. 224). Boulder: Westview Press.
13. Kennedy, P. (1991). *Grand Strategies in War and Peace* (pp. 5). New Haven, CT: Yale University Press.
14. Foster, G. D. (1985). Missing and Wanted: A U.S. Grand Strategy. *Strategic Review*, Vol. 13, 14.
15. Han, F. K., Ibrahim, Z., Chua, M., Lim, L., Low, I., Lin, R., & Chan, R. (2011). *Lee Kuan Yew: Hard Truths to Keep Singapore Going* (pp. 32). Singapore: Straits Times Press.
16. Lee, K. Y. (2009, April 9). *The Fundamentals of Singapore's Foreign Policy: Then and Now*. Retrieved from Prime Minister's Office: <http://www.pmo.gov.sg/newsroom/speech-mr-lee-kuan-yew-minister-mentor-s-rajaratnam-lecture-09-april-2009-530-pm-shangri>
17. Jayakumar, S. (2011). *On Diplomacy: A Singapore Experience* (pp. 22). Singapore: Straits Times Press.
18. Ibid.
19. Lee, K. Y. (2009, April 9). *The Fundamentals of Singapore's Foreign Policy: Then and Now*. Retrieved from Prime Minister's Office: <http://www.pmo.gov.sg/newsroom/speech-mr-lee-kuan-yew-minister-mentor-s-rajaratnam-lecture-09-april-2009-530-pm-shangri>
20. Jayakumar, S. (2011). *On Diplomacy: A Singapore Experience* (pp. 198). Singapore: Straits Times Press.
21. Ibid., 198.
22. Ibid., 23.
23. Lee, H. L. (1984, Oct 16). Security Operations for Small States, Speech by Political Secretary (Defence), Brigadier General Lee Hsien Loong. *Singapore Institute of International Affairs*.
24. MINDEF (Defence Policy). (n.d.). *Defence Policy & Diplomacy*. Retrieved from Ministry of Defence (MINDEF) Singapore: <https://www.mindef.gov.sg/web/portal/mindef/defence-matters/defence-topic/defence-topic-detail/defence-policy-and-diplomacy>
25. MINDEF (3G SAF). (n.d.). *3G SAF: Transforming the SAF*. Retrieved from Ministry of Defence (MINDEF) Singapore: <https://www.mindef.gov.sg/web/portal/mindef/defence-matters/defence-topic/defence-topic-detail/3g-saf>
26. MINDEF (Defence Policy). (n.d.). *Defence Policy & Diplomacy*. Retrieved from Ministry of Defence (MINDEF) Singapore: <https://www.mindef.gov.sg/web/portal/mindef/defence-matters/defence-topic/defence-topic-detail/defence-policy-and-diplomacy>
27. 1950: Maria Hertogh Riot — a riot stirred by religious dispute.
1956: Chinese Middle School Riot — communist inspired revolt against the government
1964 & 1969: Race riots between the Malay and Chinese Communities
28. Mohammad, A. M., & Mohamed, I. M. (2016). Managing Religious Diversity in Singapore: Context and Challenges. In B. Desker, & C. G. Ang, *Perspectives on The Security of Singapore* (pp. 253-276). Singapore: World Scientific Publishing Co. Pte. Ltd.
29. PSD. (n.d.). *Cultivating a Harmonious Society: Becoming One People*. Retrieved from Public Service Division: <https://www.psd.gov.sg/heartofpublicservice/our-institutions/cultivating-a-harmonious-society-becoming-one-people/>
30. Ibid.
31. Han, F. K., Ibrahim, Z., Chua, M., Lim, L., Low, I., Lin, R., & Chan, R. (2011). *Lee Kuan Yew: Hard Truths to Keep Singapore Going* (pp. 34). Singapore: Straits Times Press.

32. Lee, H. L. (2010, Jan 26). *Address by Prime Minister Lee Hsien Loong at the Gala Dinner for the International Housing Conference*. Retrieved from Prime Minister's Office Singapore: <http://www.pmo.gov.sg/newsroom/address-prime-minister-lee-hsien-loong-gala-dinner-international-housing-conference>
33. Png, P.-S. (1976). Racial Integration and Nation-Building in Singapore. *Philippine Sociological Review*, Vol. 24, No. 1/4, The Chinese in ASEAN Countries: Changing Roles and Expectations (Jan-Oct 1976), pp. 77.
34. Goh, K. S. (1967, Mar 13). *Speech by the Minister of Defence, Dr Goh Keng Swee, In Moving the Second Reading of the National Service (Amendment) Bill in the Singapore Parliament* (pp. 3-4). Retrieved from National Archives of Singapore - Speeches and Press Releases: <http://www.nas.gov.sg/archivesonline/speeches/record-details/79b11d3f-115d-11e3-83d5-0050568939ad>
35. Han, F. K., Ibrahim, Z., Chua, M., Lim, L., Low, I., Lin, R., & Chan, R. (2011). *Lee Kuan Yew: Hard Truths to Keep Singapore Going* (pp. 32). Singapore: Straits Times Press.
36. Lee, K. Y. (2000). *From Third World to First* (pp. 66). Singapore : Times Media Pte Ltd.
37. Ibid., 69.
38. Ibid., 67.
39. Ang, C. G. (2016). Singapore's Conception of Security. In B. Desker, & C. G. Ang, *Perspectives on The Security of Singapore* (pp. 3-19). Singapore: World Scientific Publishing Co. Pte. Ltd.
40. Han, F. K., Ibrahim, Z., Chua, M., Lim, L., Low, I., Lin, R., & Chan, R. (2011). *Lee Kuan Yew: Hard Truths to Keep Singapore Going*. Singapore: Straits Times Press.
41. Rajaratnam, S. (1972, Feb 6). *Singapore: Global City (Text of address by Minister for Foreign Affairs S Rajaratnam to the Singapore Press Club*. Retrieved from National Archives of Singapore - Speeches and Press Releases: <http://www.nas.gov.sg/archivesonline/speeches/record-details/fd2918de-3270-11e4-859c-0050568939ad>
42. Menon, R. (2015, Aug 5). "An Economic History of Singapore: 1965-2065*" - Keynote Address by Mr Ravi Menon, Managing Director, Monetary Authority of Singapore, at the Singapore Economic Review Conference 2015. Retrieved from Monetary Authority of Singapore: <http://www.mas.gov.sg/News-and-Publications/Speeches-and-Monetary-Policy-Statements/Speeches/2015/An-Economic-History-of-Singapore.aspx>
43. Han, F. K., Ibrahim, Z., Chua, M., Lim, L., Low, I., Lin, R., & Chan, R. (2011). *Lee Kuan Yew: Hard Truths to Keep Singapore Going* (pp. 33-34). Singapore: Straits Times Press.
44. Heng, Y. K. (2012, Feb 6). Rajaratnam's Global City Vision for Singapore Vindicated 40 years on. *The Straits Times*, p. A17.
Teo, J. (2017, Mar 8). *Speech by Senior MOS Josephine Teo for MOT at the Committee of Supply Debate*. Retrieved from Budget 2017: <https://www.gov.sg/microsites/budget2017/press-room/news/content/speech-by-senior-mos-josephine-teo-for-mot-at-the-committee-of-supply-debate>
45. Lim, S. G. (2015, Jan 15). *In Search of Purpose 2015: An Evening with Lim Siong Guan*. Retrieved from Central Singapore Community Development Council: <https://www.cdc.org.sg/centralsingapore/resources/in-search-of-purpose-talks>
46. Heng, Y. K. (2012, Feb 6). Rajaratnam's Global City Vision for Singapore Vindicated 40 years on. *The Straits Times*, p. A17.
47. Shanmugaratnam, T. (2009, Jan 22). *Budget Speech 2009*. Retrieved from Singapore Budget 2009: http://www.singaporebudget.gov.sg/budget_2009/speech_ph/ph.html
48. Heng, S. K. (2018, Feb 19). *Budget Speech*. Retrieved from Budget 2018: http://www.singaporebudget.gov.sg/budget_2018/BudgetSpeech
49. Lee, H. L. (2015, Nov 27). *Address to the 8th S. Rajaratnam Lecture*. Retrieved from Prime Minister's Office Singapore: <http://www.pmo.gov.sg/newsroom/pm-lee-hsien-loong-8th-s-rajaratnam-lecture-27-november-2015>

50. CNA. (2015, Jul 23). *Three biggest challenges Singapore will face up to SG100: Lee Hsien Loong*. Retrieved from Channel News Asia (CNA): <https://www.channelnewsasia.com/news/singapore/three-biggest-challenges-singapore-will-face-up-to-sg100-lee-hsi-8238336>
- Heng, S. K. (2018, Feb 19). *Budget Speech*. Retrieved from Budget 2018: http://www.singaporebudget.gov.sg/budget_2018/BudgetSpeech
- Lim, Y. L. (2016, Mar 29). *Four key challenges for Singapore in next 50 years*. Retrieved from The Straits Times: <http://www.straitstimes.com/singapore/four-key-challenges-for-singapore-in-next-50-years>
- Parameswaran, P. (2015, Jul 2). *Can Singapore Overcome its Future Challenges?* Retrieved from The Diplomat: <https://thediplomat.com/2015/07/can-singapore-overcome-its-future-challenges/>
51. Lee, M., & Yeo, S. J. (2015, Sep 3). *Vivian and Chee trade barbs over SDP policy ideas*. Retrieved from The Straits Times: <http://www.straitstimes.com/politics/vivian-and-chee-trade-barbs-over-sdp-policy-ideas>
52. Ong, W. (2011). The Need for Engagement in Singapore's Defence Policies. *S. Rajaratnam School of International Studies (RSIS) Commentaries*, No. 60/2011.
53. Gertz, B. (2017, Nov 16). *NSA: Cyber Attacks Are Becoming More Sophisticated, Aggressive, and Disruptive*. Retrieved from The Washington Free Beacon: <http://freebeacon.com/national-security/nsa-cyber-attacks-becoming-sophisticated-aggressive-disruptive/>
54. Wright, R. (2017, Jun 5). *How Different — and Dangerous — is Terrorism Today?* Retrieved from The New Yorker: <https://www.newyorker.com/news/news-desk/how-different-and-dangerous-is-terrorism-today>
55. Singh, B. (2017, Jul 17). *Southeast Asia Braces for the Post-Islamic State Era*. Retrieved from The Diplomat: <https://thediplomat.com/2017/07/southeast-asia-braces-for-the-post-islamic-state-era/>
56. Lim, K. (2017, Sep 27). *'Still some way to go' for terror preparedness among Singaporeans: Shanmugam*. Retrieved from Channel News Asia: <https://www.channelnewsasia.com/news/singapore/still-some-way-to-go-for-terror-preparedness-among-singaporeans-9256530>
57. Total Fertility Rate (TFR) in 2017 was at 1.16, which marks a continued downward trend: TFR 1.25 (2014), TFR 1.24 (2015), TFR 1.20 (2016). Retrieved from <https://singstat.gov.sg/statistics/latest-data#18>.
- Tan, E. (2017, Sep 29). *Quality immigration will remain Singapore's lifeblood*. Retrieved from Today: <https://www.todayonline.com/singapore/quality-immigration-will-remain-singapores-lifeblood>
58. Department of Statistics Singapore. (2018). *Latest Key Indicators*. Retrieved from Department of Statistics Singapore: <https://www.singstat.gov.sg/>
59. CENS. (2012). Centre of Excellence for National Security (CENS) Workshop: Visiting the Immigration Issue in Singapore (pp. 12). *Centre of Excellence for National Security, S. Rajaratnam School of International Studies*. Singapore.
60. Yeoh, B., & Lin, W. (2012, Apr 3). *Rapid Growth in Singapore's Immigrant Population Brings Policy Challenges*. Retrieved from Migration Policy Institute: <https://www.migrationpolicy.org/article/rapid-growth-singapores-immigrant-population-brings-policy-challenges>
61. Today. (2018, Apr 15). *The Big Read: Are S'poreans anti-foreigner? Not in the real world*. Retrieved from Today Online: <https://www.todayonline.com/singapore/big-read-are-singaporeans-anti-foreigner-not-in-real-world-0>
62. CENS. (2012). Centre of Excellence for National Security (CENS) Workshop: Visiting the Immigration Issue in Singapore (pp. 5). *Centre of Excellence for National Security, S. Rajaratnam School of International Studies*. Singapore.
63. Ng, D. (2018, Mar 9). *Why fake news is getting harder to spot (and the impact it could have)*. Retrieved from Channel News Asia: <https://www.channelnewsasia.com/news/cnainsider/fake-news-getting-harder-to-spot-singapore-select-committee-10027310>
64. Lee, H. L. (2015, Jun 30). *Ho Rih Hwa Leadership in Asia Public Lecture Series*. Retrieved from Prime Minister's Office: <http://www.pmo.gov.sg/newsroom/pm-lee-hsien-loong-ho-rih-hwa-leadership-asia-public-lecture-series>

65. Ibid.
66. Based on the 2018 Budget Address projections, healthcare has doubled from \$3.9 billion in FY2011, to an estimated \$10.2 billion in 2018.
67. Lee, H. L. (2015, Jun 30). *Ho Rih Hwa Leadership in Asia Public Lecture Series*. Retrieved from Prime Minister's Office: <http://www.pmo.gov.sg/newsroom/pm-lee-hsien-loong-ho-rih-hwa-leadership-asia-public-lecture-series>
68. Heng, S. K. (2018, Feb 19). *Budget Speech* (pp. 38-39). Retrieved from Budget 2018: http://www.singaporebudget.gov.sg/budget_2018/BudgetSpeech
69. Ibid., 23.
70. EDB. (2017, May 10). *Tackling challenges in integrating Industry 4.0 into manufacturing operations*. Retrieved from Economic Development Board Singapore: <https://www.edb.gov.sg/en/news-and-resources/insights/manufacturing/tackling-challenges-in-integrating-industry-4-0-into-manufacturi.html>
Future Economy. (2016, Apr 7). *Industry 4.0 and Singapore manufacturing*. Retrieved from Future Economy Council: <https://www.gov.sg/microsites/future-economy/press-room/news/content/industry-4-0-and-singapore-manufacturing>
71. CEA. (2018, Mar 26). *Singapore EDB funds 300 companies to assess Industry 4.0 readiness*. Retrieved from Control Engineer Asia: <https://www.ceasiamag.com/2018/03/singapore-edb-funds-300-companies-ases-industry-4-0-readiness/>
72. Waslo, R., Lewis, T., Hajj, R., & Carton, R. (2017). *Industry 4.0 and cybersecurity: Managing Risk in an Age of Connected Production*. Deloitte University Press. Retrieved from Deloitte University Press



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