

EXAMINING FOOD-SECURITY AS A DRIVER OF JAPAN'S LONG-TERM PRESENCE IN THE INDIAN OCEAN

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The geopolitical moves of Japan and India appear to be getting steadily more aligned within the predominantly maritime domain that constitutes the Indo-Pacific. Is this apparent maritime-alignment sustainable over the foreseeable future? What are its drivers? Will these drivers endure? While petroleum-based energy and its maritime-transportation is an obvious driver, is it the only one, or are there others of significance, too? In other words, if energy were to be removed from the geopolitical equation, would Japan continue to be present in the Indian Ocean? These are important questions at a time when several energy-deficient countries (including Japan and India, but not limited to these two alone) are formulating and executing energy-policies premised upon an eventual abandonment of petroleum-based energy.

This article, which explores **food-security** as a possible driver, is part of a large series of studies that are currently being undertaken at the National Maritime Foundation to explore such facets of holistic security (in general and 'holistic maritime-security' in particular) as might drive Japan's long-term presence in the Indian Ocean segment of the Indo-Pacific.

Amongst industrialised nations, Japan is often considered to be a severely lacking in food self-sufficiency. But is food security synonymous with food self-sufficiency? The lay reader may be forgiven for thinking that this is, indeed, the case. In reality, however, "*the concept of food self-sufficiency is generally taken to mean the extent to which a country can satisfy its food needs from its own domestic production*". (FAO, 1999)¹. Food '**security**', on the other hand, might well be achieved by the country concerned simply importing the balance of food that is short. If such import-sources are entirely reliable and the transportation of the food from its source to its destination is assured — that is, financially and physically secure — the country may end up having an acceptable degree of food-security even while remaining deficient in terms of food self-sufficiency. This is especially true in 'caloric terms', wherein a self-sufficient country produces as much or more 'caloric-value' of food than it consumes, even if some of the actual food items consumed by its population are different from those that it produces domestically. Thus, even countries that are 'self-sufficient' may specialise their food-production to some extent and import as well as export food. This concept is encapsulated by the FAO by the expression 'Self-Sufficiency Ratio' (SSR), which is the percentage of domestically

¹ Food Self-sufficiency and International Trade: A False Dichotomy?; The State of Agricultural Commodity Markets 2015-16 IN DEPTH. The Food and Agricultural Organization of the United Nations. url: <http://www.fao.org/3/a-i5222e.pdf>

produced food that is actually consumed by the country (FAO, 2012). It is calculated, as a percentage, by the equation: $\text{Production} \times 100 / (\text{Production} + \text{Imports} - \text{Exports})$.²

Is this the case with Japan? Japan is certainly far from being self-sufficient in terms of food. In fact, this has been a feature of large segments of its history. In ancient Japan, too, food insecurity has been a bane of the country with several past phases of acute food self-sufficiency being recorded. In the social hierarchy of the time, Japan's peasantry ranked just after the nobility, because they produced the most important commodity — food. A history of famines in the country resulted in drastically increased food prices.³

In more recent times, too, Japan's food self-sufficiency ratio, which was as high as 79% in the 1960s,⁴ has declined steadily. Contemporary Japan relies upon imports of foodstuffs, livestock and agricultural raw material to make-up its requirements to bring its food-security to an acceptable level. These imports are substantial in their monetary value. In 2017, for instance, Japanese food-imports accounted for 9.4% of Japan's total imports.⁵ As per a recent report by the United Nations' Report, *The State of Food Security and Nutrition in the World 2019*, between 2014-16 and 2016-18, the number of 'severely food-insecure' people has increased from 0.5 to 0.8 million people (Table A1.2, Pg. 139),⁶ while even the number of 'moderately food-insecure' people has witnessed a rise of over 60 million people. The previous (2018) edition of this report, too, had cited similar concerns for Japan.⁷

Assessing Commodities

In the late 1980s, Japan was importing half its calorific intake, with particular focus

² *Ibid*

³ Lumen Learning. "From the Edo Period to the Meiji Restoration in Japan"; available at url: <https://courses.lumenlearning.com/boundless-worldhistory/chapter/from-the-edo-period-to-meiji-restoration-in-japan/>

⁴ Kazuaki Nagata. "Japan needs imports to keep itself fed", The Japan Times, 26 February 2008; available at url: https://www.japantimes.co.jp/news/2008/02/26/reference/japan-needs-imports-to-keep-itself-fed/#.XYH-B_AzbDc

⁵ Knoema. "Japan – Food imports as a share of merchandise imports"; available at url: <https://knoema.com/atlas/Japan/Food-imports>

⁶ Food and Agricultural Organisation of the United Nations. "The State of Food Security and Nutrition in the World, 2019", Table A1.2, p. 139; available at url: <http://www.fao.org/3/ca5162en/ca5162en.pdf>

⁷ Food and Agricultural Organisation of the United Nations. "The State of Food Security and Nutrition in the World, 2019" ; available at url: <http://www.fao.org/3/i9553en/i9553en.pdf>

being on non-traditional foods such as red meat, wheat, and maize.⁸ Self-sufficiency in grains had declined to 40% in 1998. Some two decades further down the line, in 2017, Japan's food-imports (which include food-grains [agricultural goods] as well as meat and fish), were — as has already been mentioned — 9.4% of the country's total imports. In that same year, as much as 51.9% of the total food-imports comprised agricultural goods, making Japan the world's fourth-largest importer of agricultural foods. Even as on date, maize as a food grain is consistently among Japan's top five import-commodities, accounting for some \$3.07 billion,⁹ while meat is imported as 'processed food' from several major food-surplus nations such as China, the USA, Australia, Thailand, and France.¹⁰ Self-sufficiency in respect of cereals in Japan is presently as low as 30%.

The consumption of fish makes up 40% of the total intake of animal-origin protein, or about 20% of the total intake of animal or plant origin.¹¹ The varieties of fish most imported by Japan are shrimp, tuna, salmon, and trout, with the imports coming mainly from China, the United States, Chile, and Thailand. Of these varieties, Japan leads the world in tuna consumption, and is the largest importer of marine products. Likewise, as far as overall seafood is concerned, Japan is the world's fourth largest market.¹²

As things presently stand, Japan is self-sufficient in the production of rice and wheat. However, this self-sufficiency is somewhat precarious and weather-dependent, particularly where wheat is concerned. Rice-production appears somewhat more resilient, although in 1993 the country experienced a particularly poor harvest of rice as a result of inclement weather conditions.¹³ In overall terms, weather continues to remain a significant determinant of the indigenous production of grains — apart, perhaps, from rice — even today.¹⁴ Given the importance of rice to its food-security,

⁸ Euan Graham. "Japan's Sea Lane Security, 1940-2004: A matter of life and death?", Routledge, 2012, p. 17

⁹ Japan's Top Commodity Imports and Exports. Commodity.com Website; available at [url:https://commodity.com/japan/](https://commodity.com/japan/)

¹⁰ Agriculture and Agri-Food Canada. "Outline of Opportunities in Japan"; available at url: <http://www.agr.gc.ca/eng/industry-markets-and-trade/international-agri-food-market-intelligence/reports/outline-of-opportunities-in-japan/?id=1513609569040>

¹¹ Food and Agricultural Organisation of the United Nations. "The Sustainable Contribution of Fisheries to Food Security in Japan"; available at url: <http://www.fao.org/3/x6956e/x6956e03.htm>

¹² Food and Agricultural Organisation of the United Nations. "GLOBEFISH - Information and Analysis on World Fish Trade"; available at url: <http://www.fao.org/in-action/globefish/countries/countries/jpn/japan-trade/en/>

¹³ Euan Graham. *Op Cit* (See *Supra* Note 8), p. 18

¹⁴ Kazuaki Nagata. "Japan needs imports to keep itself fed", The Japan Times, 26 February 2008; available at url: https://www.japantimes.co.jp/news/2008/02/26/reference/japan-needs-imports-to-keep-itself-fed/#.XYH-B_AzbDc

ALSO SEE:

Japan remains a staunch advocate of the 'ASEAN-Plus Three Emergency Rice Reserve' (APTERR). This is an initiative to ensure the security of rice as a food-commodity between the ten member-states of the Association of Southeast Asian Nations (ASEAN) and the three member-states (Japan, China and South Korea) that constitute the 'Plus Three' segment. It fundamentally involves ensuring rice-centric food-aid to neighbouring countries.¹⁵

Maritime Aspects of Food-Security

The maritime domain is central to Japan's mitigation-endeavours in respect of food-security. This is manifested in the infrastructure (and associated merchandise) required to ensure or enhance political stability in those countries from where the food is being sourced, as also in the assurance and protection of the shipping involved in the transportation of these food-imports. Where the latter issue is concerned, this requires not only point-protection of the ships on which the food-imports are being transported from their source to their destination, but also the stabilisation of the sea areas through which Japan's Sea Lines of Communication (SLOCs) flow. If the source-countries suffer undue turbulence, or if the country's SLOCs cannot be adjusted so as to avoid geopolitically-turbulent sea areas, Japan's food-security is immediately threatened. Japan, therefore, needs to initiate and sustain preventive measures and to plan for possible curative measures that will mitigate such threats.

In this regard, there is much that Japan could gain from studying and adopting the maritime facets of India's *Look East* Policy, which incorporates the monitoring- and protection-of seaborne trade. The counter-piracy patrols that have been sustained by the Indian Navy, in and around the Gulf of Aden, since 2008, offer a case in point. Likewise, the various manifestation of the Indian conceptualisation of SAGAR (Security and Growth for All in the Region), such as India's deep involvement in hydrographic surveys, humanitarian-assistance and disaster-relief within the maritime domain are also noteworthy.¹⁶ Japan, on the other hand, continues to demonstrate considerable reluctance to permit the Japanese Maritime Self-Defence Force (JMSDF) to deploy outside the country's Exclusive Economic Zone (EEZ), and the force needs specific parliamentary permission for specific overseas deployments such as counter-piracy missions off the coast of Somalia. That said, as long ago as

Nippon. "Japan's food self-sufficiency rate ties record low", 06 August 2019; available at url: <https://www.nippon.com/en/news/yjj2019080601064/japan's-food-self-sufficiency-rate-ties-record-low.html>

¹⁵ ASEAN Plus Website. "Three Emergency Rice Reserve"; available at url: <https://www.apterr.org/what-is-apterr>

¹⁶ M Ganapathi (*Former ambassador of India*). "Look East Act East Dimension of India's Foreign Policy", Lecture on 29 January 2015, Ministry of External Affairs website; available at url: <https://www.mea.gov.in/distinguished-lectures-detail.htm?209>

1979, the report on ‘*Comprehensive National Security*’ had already identified food-security as one of six areas for policy-formulation, and the disruption of Japanese SLOCs as one of many ‘conceivable threats to food-security’ of the country.¹⁷ This is hardly surprising, given that the October 2018 edition of the Global Food Security Index, released annually by The Economist Intelligence Unit (EIU), has compiled data on the intensity of food-deprivation in Japan and concluded that the average Japanese lacks 12 kilocalories per day in his/her calorific intake.¹⁸

Ministry of Food, Agriculture, and Fisheries’ (MAFF) Commitment to the Cause

The 2017 *Summary of the Annual Report on Food, Agriculture and Rural Areas* has emphasised the need to increase domestic agricultural production, food imports, and the stockpiling of food-products, while stating that Japan depends on certain countries for food imports.¹⁹ The next year’s summary (2018 edition), emphasises the decline in global grain-production and prioritises the need for ‘*comprehensive food-security*’. The 2018 *Summary* also paints a disappointing picture with regard to the preparedness of Japan’s food industry to deal with natural disasters that cause large-scale damage, stating that only 9.7% of the respondents of a survey conducted to explore this facet have business-continuation plans.²⁰

Chapter 2 of Japan’s *Basic Law on Food, Agriculture, and Rural Areas Act, 1999*, mandates policies to be pursued in the path towards ‘*comprehensive food security*’ — providing legislative-thrust to the formulation of policies towards food-security, the setting of a self-sufficiency target, the implementation of comprehensive policies in the domain of food and agriculture, and, the promotion of policies in relation to food and agriculture.²¹ As of Fiscal Year 2018, Japan’s food self-sufficiency rate (at 37%) on the calorific-intake basis, is the lowest in 25 years.²² Indeed, the rate witnessed a

¹⁷ Euan Graham. *Op Cit* (See *Supra* Notes 8 & 13), p. 24

¹⁸ The Economist Intelligence Unit (EIU). “Global Food Security Index: Japan”, October 2018; available at url: <https://foodsecurityindex.eiu.com/Country/Details#Japan>

¹⁹ Ministry of Food, Fisheries, and Agriculture (MAFF), Government of Japan. “Summary of the Annual Report on Food, Agriculture and Rural Areas, 2017”; available at url: <http://www.maff.go.jp/e/data/publish/attach/pdf/index-93.pdf>

²⁰ Ministry of Food, Fisheries, and Agriculture (MAFF), Government of Japan. “Summary of the Annual Report on Food, Agriculture and Rural Areas, 2018”, p. 16; available at url: <http://www.maff.go.jp/e/data/publish/attach/pdf/index-160.pdf>

²¹ Ministry of Food, Fisheries, and Agriculture (MAFF), Government of Japan. “The Basic Law on Food, Agriculture, and Rural Areas Act”, Chapter II (Basic Policies), Sections 1, 2, 3, 4; available at url: http://www.maff.go.jp/j/kanbo/kihyo02/basic_law/pdf/basic_law_agri.pdf

²² The Mainichi. “Japan’s food self-sufficiency rate lowest in 25 years”, 07 August 2019; available at url: <https://mainichi.jp/english/articles/20190807/p2g/00m/0bu/003000c>

one-percentage-point decline from 2017.²³

Article 19 of this Act stipulates food-security measures in the wake of emergencies, such as an increase in food-production and restrictions on the distribution of food.²⁴

Australia-Japan: A Partnership for Japan's Food Security

Australia remains Japan's main source of food. Bilateral relations remain positive, and this optimism can be projected into the foreseeable future, substantially addressing Japan's food insecurity.

Chapter 7 of the *Japan-Australia Economic Partnership Agreement* (JAEPA), a bilateral agreement that addresses economic aspects of the relations between the two countries, addresses the supply of food from Australia to Japan through five Articles — the Basic Principle, Definitions, Export Restrictions on Essential Food, Promotion and Facilitation of Investment, and, Consultations for Supply of Essential Food.²⁵

The JAEPA can perhaps be further strengthened to include specific stipulations towards ensuring Japan's food security. Provisions to address transfer of emerging new technologies in food-sciences, and, severe food crises or critical shortages, particularly in regard to Japan, can be included in the JAEPA, to good effect.

Australia is a pioneer in food technologies, with recent innovations in improving logistics and production of customised food. Other institutions that engage in food innovation include the 'Monash Food Innovation Centre', and the 'Commonwealth Scientific and Industrial Research Organisation' (CSIRO)'s food-innovation centre, viz., the 'Future Food Systems Cooperative Research Centre' (CRC).²⁶ Australia is also committed to growing its share in the world food markets, through the centrally-funded 'Food Innovation Australia'.²⁷

²³ The Japan Agri News. "Japan's food self-sufficiency rate remains flat at 38% in 2017", 03 September 2018; available at url: <http://english.agrinews.co.jp/?p=8693>

²⁴ Ministry of Food, Fisheries, and Agriculture (MAFF), Government of Japan. "The Basic Law on Food, Agriculture, and Rural Areas Act", Chapter II (Basic Policies), Section 2, p. 6; available at url: http://www.maff.go.jp/j/kanbo/kihyo02/basic_law/pdf/basic_law_agri.pdf

²⁵ Government of Australia, Department of Foreign Affairs and Trade (DFAT). "Japan-Australia Economic Partnership Agreement", Chapter 7; available at url: <https://dfat.gov.au/trade/agreements/in-force/jaepa/full-text/Documents/jaepa-chapters-1-to-20.pdf>

²⁶ foodprocessing.com.au Website. "High-tech Future for the Australian Food Industry", 08 April 2019, available at url: <https://www.foodprocessing.com.au/content/processing/article/high-tech-future-for-the-australian-food-industry-214937125>

²⁷ Food Innovation Australia (FIAL) Website; available at url: <https://fial.com.au/>

Conclusion

Food security remains a global concern, and requires global solutions. It has been determined by the United Nations (UN) that 820 million people in 2018 did not have enough food and suffered from malnutrition.²⁸

The Economist Intelligence Unit's (EIU) Global Food Security Index ranks Japan 18th in the world in food security, out of the 113 countries studied. The Index ranks Japan highly on its food safety net programmes, access to financing for farmers, and nutritional standards. However, the Index has only cited its findings for a little more than half of the world's countries, making it an unfair ranking. Significantly, Japan ranks *last* in food-security amongst developed nations.²⁹ Japan's attempts at ensuring food security need to be reemphasized, reinvigorated, and resuscitated.

Food-surplus nations such as Australia, China, the United States, the United Kingdom, France, and Germany can prove to be a vital resource into which Japan could tap. Not surprisingly, therefore, the Japan-European Union Economic Partnership Agreement (JEEPA), implemented in February 2019, includes an entire chapter (Chapter 19) on trade in agricultural products and food.³⁰

The Global Food Security Index ranks Singapore as the world's most food-secure nation, and, once again, Japan could benefit from the 'Singapore model' of food security (Agri-Food & Veterinary Authority of Singapore), which involves the diversification of food sources, improvised local production of foods, and implementation of food safety measures.³¹

In addition, optimised measures can be undertaken to ensure the reduction in food wastage, even while waste-disposal systems are continuously be upgraded to

²⁸ Chief of UN agricultural fund warns Africa could face food shortages as populations grow
August 30 2019

Reiji Yoshida. "Chief of UN Agricultural Fund Warns Africa Could Face Food Shortages as Populations Grow"

The Japan Times, 30 August 2019; available at url:

https://www.japantimes.co.jp/news/2019/08/30/business/chief-u-n-agricultural-fund-warns-africa-face-food-shortages-populations-grow/#.XXtAO_AzbDc

²⁹ The Economist Intelligence Unit. "Global Food Security Index"; available at url:

<https://foodsecurityindex.eiu.com/Index/Overview>

³⁰ Japan-EU Economic Partnership Agreement (JEEPA). "Chapter 19: Cooperation in the Field of Agriculture", (Articles 19.1 to 19.8); available at url:

http://trade.ec.europa.eu/doclib/docs/2018/august/tradoc_157228.pdf#page=30

³¹ Agri-Food & Veterinary Authority of Singapore. "Singapore's Food Security"; available at url:

<https://agrifood.net/images/cfs43/CFS43%20Side-event%20background%20document%20-%20Lessons%20from%20Singapore.pdf>

ensure that they continue to reflect the state-of-the-art. Concerns over food imports also need to be addressed, given that Japan has imported spoilt foodstuff in the past, including pesticide-laden “gyoza” dumplings from China in December 2008, which caused the poisoning of about 80 people.³² Export restrictions on foods also need to be tailored according to the demands of the Japanese people.

Diseases and plagues caused as a result of poor resource management, poor storage management, and lack of infrastructure in the domain of food security, can prove to be disastrous for the Japanese economy, which has witnessed severe setbacks in the past, such as the impact of the 2011 Fukushima Daiichi nuclear disaster on an unprepared Japan. As mentioned previously, a majority of Japan’s food industries remain highly susceptible to failures in the wake of natural disasters.

Some of the poorer regions of the world have witnessed ‘food riots’ resulting from an inherent lack of food security, and if Japan is to insulate itself from the prospect of domestic unrest in regarding the supply of food to its relatively large population of 127 million people, then the country must foster an unwavering commitment to its goal of achieving ‘*comprehensive food security*’, particularly the goal of achieving 45% self-sufficiency in food by 2025.³³ Accompanying actions towards the achievement of the goal must be efficient and effective.

How this impacts Japan’s maritime policies and the formulation of Japan’s maritime strategies within the Indian Ocean segment of the Indo-Pacific will be debated in the next article of this series.

³² The Guardian. “Chinese Dumplings Poison Dozens in Japan”, 31 January 2008; available at url: <https://www.theguardian.com/world/2008/jan/31/japan.china>

³³ The Mainichi. *Op Cit* (Supra Note 22)